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PACKAGING AND UTILITY DEVICE

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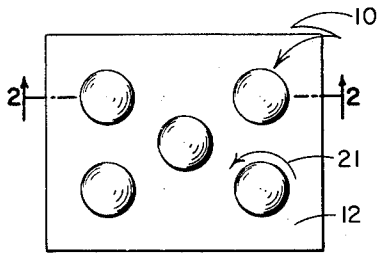


FIG. 1

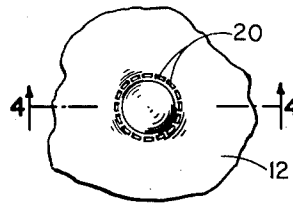


FIG. 3

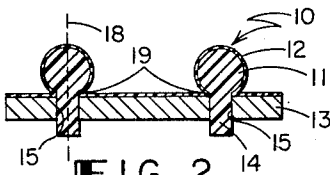


FIG. 2

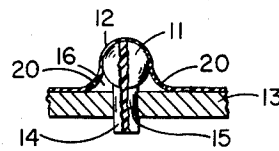


FIG. 4

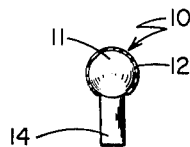


FIG. 5

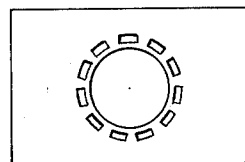


FIG. 6

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1

3,140,778

PACKAGING AND UTILITY DEVICE

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This invention relates generally to novel and advantageous combined packaging and utility devices. More specifically, this invention relates to packaged objects wherein a plastic film forms an integral part of the package and may be removed from the package along with the packaged objects and employed to advantage on the object in use.

Many well known objects may be packaged in accordance with the teachings of my invention. For example, decorative or ornamental devices, doorknobs, handles, etc.

It is well known that the packaging of objects and their decoration, abrasion protection, safety protection, etc. have been treated as separate fields of endeavor by industry.

Packaging devices of cardboard, paper, metals, etc. are normally designed with certain problems in mind, viz., breakage in transit, eye appeal to the consumer, over-all size, etc. On the other hand, the appearance and function of objects are commonly designed without serious regard to packaging problems.

Decorative or ornamental devices are good examples of the prior art's plural step approach to these problems. For example, decorated spheres or cores are often packaged in printed cardboard units which are designed primarily to protect the spheres against damage in shipment and to provide an eye appealing unit to the consumer. The packaging devices commonly employed play no part in the decoration or protection of the device in usage.

I have now found a particularly effective combined packaging and utility device for objects. Basically I employ a thin, clear, natural plastic film which covers objects mounted on a base support. The plastic film acts as a package forming component and is so designed that the portion of the film covering the object adheres to the object and is removable therewith from the base support. Surprisingly, the clear, natural plastic film on the object acts as a decoration in that it may give a luster or three dimensional effect to decorations on the object. The clear, natural plastic film further acts as an abrasion resistant layer for underlying printed or decorated surfaces. In the case of glass or other frangible objects the clear film prevents shattering or haphazard dispersion of the glass in the event breakage occurs. The use of the plastic film of my invention generally enables rapid, inexpensive packaging and enhanced utility and ornamental features of objects.

The device of my invention can be produced by well known film processing techniques. For example, a plastic film can be skin packaged by vacuum over a base board carrying the objects or cores to be packaged. Holes are formed in a base board and an extension portion of the objects are positioned therein. A plastic film is then vacuum formed with or without the use of heat so as to conform to at least a portion of the object or core and bond to the base member supporting said object.

The objects or cores employed according to my invention may have various shapes. Preferably, these objects comprise a decreased diameter or reduced circumference portion and an extension or projection portion at one part thereof as will be more fully described later. The objects may be composed of metal, glass, plastic, foamed plastic, etc. It should be understood that the objects packaged according to the teachings of my invention may be solely employed for decorative purposes or may in

2

addition have specific functions such as doorknobs, handles, etc.

The clear, natural, thin plastic film employed in my invention can be composed of any of the thermoplastic resins well known in the "skin packaging" art, e.g., cellulose acetate, cellulose butyrate, vinyls, laminates of cellulose acetate or cellulose butyrate on polyethylene, polyethylene, polypropylene, synthetic linear polyamides or nylon polymers, etc.

I have found that nylon polymers are particularly suited for usage in the device of my invention. These polymers can be readily processed to conform to various object or core configuration by well known "skin packaging" techniques. The particular advantages of nylon polymers will be more fully disclosed in connection with the description of the drawings.

The base or support member of my invention is preferably composed of a flexible cardboard material such as kraft cardboard although plastics, metals, laminates and composite bases may be employed. It is only necessary that the base member provide the required degree of flexibility or rigidity for the particular utility package produced and that it bond well with the plastic film material under the manufacturing conditions employed. In some cases it may be desirable to provide a plastic coated and/or perforated base to insure proper bonding of the base with the plastic film material employed.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings preferred embodiments thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

FIGURE 1 illustrates a top plan view of one embodiment of my invention.

FIGURE 2 illustrates a cross-sectional view taken along line 2—2 of FIGURE 1.

FIGURE 3 is a fragmentary top plan view of an alternate embodiment of my invention.

FIGURE 4 is a fragmentary cross-sectional view taken along line 4—4 of FIGURE 3.

FIGURE 5 shows a plastic film covered device of this invention after separation from the base member.

FIGURE 6 shows a bottom plan view of the base or support member of another embodiment of my invention.

In the drawings FIGURES 1 and 2 illustrate a utility package of this invention. A substantially planar uncoated cardboard base is shown at 13. The base is preferably composed of an uncoated cardboard material having holes 15 therein. The base may be adapted to carry one or more of the objects of this invention. As clearly seen in FIGURE 2, it is necessary that a mounting extension portion or projection 14 be provided on the object to be decorated. The projection may be an integral part of the object as shown or may be an attached portion such as a staple, pin, rod, cube, dowel, etc. In the use the projection serves as an attachment to hang or anchor the decoration. Holes 15 are preferably equal to or slightly smaller in diameter than the diameter of the projection 14 of object 10. The snug fit of projection 14 aids in retaining the sphere or object in position on the card with the main axis 18 substantially perpendicular to the plane of the base. It should be understood that non-planar bases and/or enlarged holes may be employed in my invention if desired. If a thick board is employed, the stem may be retained entirely within the

3

base member rather than extending therethrough as illustrated.

The object or core is illustrated in the form of a sphere 10, although various shapes may be employed. It is only necessary that a reduced diameter, cut back or reduced circumference portion be employed so that when the decorated object is removed from the base the "skin" or plastic film carried thereon encases and adheres to the object since it cannot slide off the object. The illustrated sphere 10 is preferably a foam plastic material such as polystyrene foam which is decorated as by painting, spraying or printing on its surface.

A clear, natural, transparent nylon film 12 is formed over the spherical portion 11 and the base 13. It should be noted that the nylon material is capable of being deep drawn in close conformance to the configuration of the object. The plastic film may cover substantially the entire spherical portion 11 or it may extend down and in addition cover a portion of the projection 14 if the projection is enlarged or if it is not entirely recessed into base 13. The portion 19 of the film is the thinnest section of the film since the film is stretched to its greatest extent at this point during conventional skin packaging by vacuum techniques. The main advantage of nylon film is that it can be deep drawn by vacuum and it will adhere readily to the uncoated cardboard base. When packaging objects having a substantial height to width ratio or deep drawn, nylon is particularly suitable. The nylon film 12 bonds to the uncoated cardboard base 13 at the surface thereof. The film acts to retain the position of the object with respect to the board. As a result of the thinning of the film and the reduced diameter or configuration at point 19, the object can be readily removed from the base by hand. Preferably a twisting motion is employed as shown at 21, to break the film and the object is raised from the board with the plastic film adhering to the spherical portion thereof as shown in FIGURE 5. If desired, the film can be perforated, slit or stamped at diameter or configuration 19 in order to facilitate easy separation of the plastic film. In this manner the plastic film is both a packaging and decorative component providing a third dimensional and glossy appearance to the decorated plastic foam core.

FIGURES 3 and 4 illustrate alternate embodiments of my invention, wherein the plastic film 12 does not conform closely to the entire surface of the object. Any number of similar or dissimilar objects may be employed in the embodiments of my invention, although only one object is shown in these figures. The space 16 varies in size depending on the particular plastic employed and the degree of heat and vacuum utilized in the skin packaging operation. Slits, perforations, indentations, etc. are employed to facilitate removal of the sphere. The slits, perforations, indentations, etc. may be formed in the film allowing removal of the object and film from the base. Alternatively the slits, perforations, etc. can be formed in the base as well as in the film thus enabling removal of a portion of the base, as shown in FIGURE 6, with the film and the object. The latter expedient can be employed

4

where a portion of the base is desired as a part of the ornamentation.

The plastic film employed is preferably a substantially uniform clear, natural, transparent or translucent film having a thickness previous to skin packaging of 0.0005 to 0.010 inch with 0.001 to 0.003 inch being preferred. The term "natural" as employed herein indicates that the film is uncolored. Thicknesses within these ranges provide commercially efficient, easily separable, utility packages of this invention.

Many changes and alterations may be made without departing from the spirit and scope of this invention which is set forth in the appended claims which are to be construed as broadly as possible in view of the prior art.

I claim:

1. A vacuum-formed display and packaging device consisting essentially of at least one object having a substantially decreased thickness portion and a projection extending outwardly of said decreased thickness portion, said projection being mounted in a corresponding aperture in a substantially planar base member, a clear, natural nylon thermoplastic film having a thickness of 0.0005 to 0.010 inch covering and closely conforming to the configuration of said object and bonded to at least a portion of said base member, means provided on a portion of said film covering closely conforming to the decreased thickness portion of said object for allowing easy removal of said object from said base member by separation of said film member whereby said object may be removed from said base member along with a portion of said clear, natural film which adheres to said object.

2. The vacuum-formed display and packaging device of claim 1 wherein said means is a means provided in said film and said base member for allowing easy removal of said object, a portion of said film and a portion of said base member.

3. The device of claim 2 wherein said means for allowing easy removal of said object, a portion of said film and a portion of said base member comprises perforations.

4. The device of claim 1 wherein said object comprises a polystyrene foam material.

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