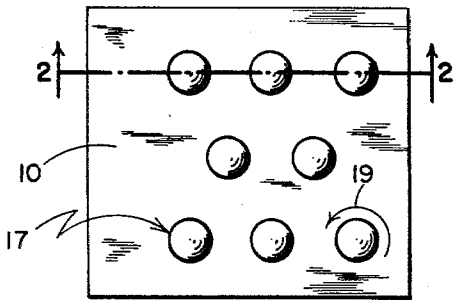
May 18, 1965 C. F. KAPLAN 3,184,059

UTILITY PACKAGE

Filed Feb. 9, 1961

FIG. 1



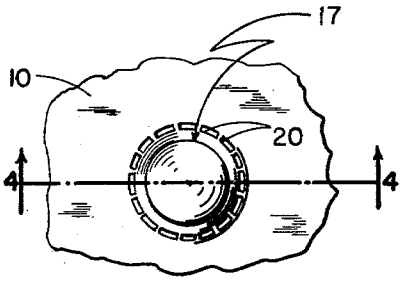


FIG. 3

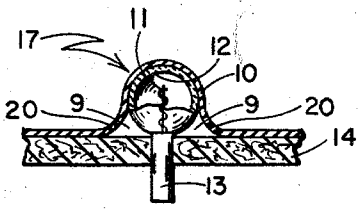


FIG. 4

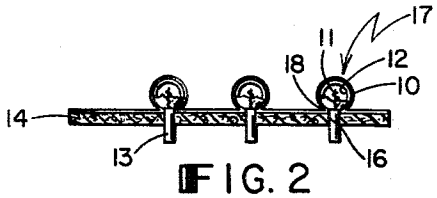


FIG. 2

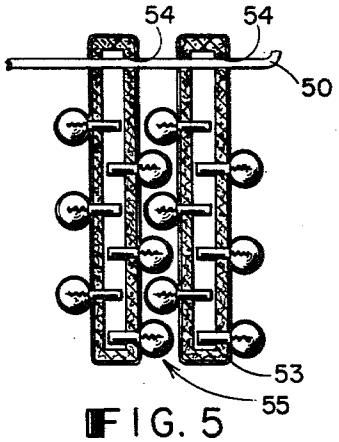


FIG. 5

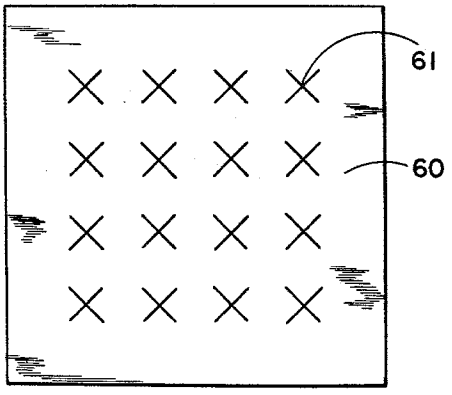


FIG. 6

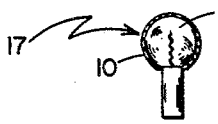


FIG. 7

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UTILITY PACKAGE

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5 Claims. (Cl. 206—80)

This invention relates generally to a novel and advantageous utility packaging device. More specifically, this invention comprises a combined packaging, decorative and safety protective device for electric bulbs.

The terms electric bulb or bulbs as employed herein signify well known illuminating bulbs, test bulbs, photographic flash bulbs, decorative bulbs, etc. These bulbs are composed essentially of a transparent or translucent glass or plastic portion, a conductive member therein and at least one partially metallic stem portion.

It is well known in the art that electric bulb packaging, decoration, and safety protection against bulb explosion have been treated as separate fields of development in the electric bulb manufacturing industry.

Packaging devices of cardboard, paper, metal, etc. are normally designed with certain packaging problems in mind, viz., breakage in transit, eye appeal to the consumer, over-all size, etc. On the other hand, bulb decoration and means of providing safety protection against bulb explosions are often designed without serious regard to packaging problems.

The flashbulb in particular is perhaps the best example showing the prior art's plural step approach to these problems. For example, the bulbs are often packaged in printed cardboard units which are designed primarily to protect the bulb against breakage and to provide an eye appealing unit to the consumer. Flashbulbs are particularly susceptible to malfunction and explosion. The art has recognized this problem, and ignoring an approach to a solution tied in with packaging, has utilized safety features such as special bulb coating protective layers and safety screens over flashgun attachments.

Aside from the added expense and inconvenience involved in the prior art individual solutions to these problems, these solutions are not entirely effective. Thin safety protective coatings placed on flashbulbs are subject to wear and are frequently damaged or removed in handling. Further, it is well known that many photography enthusiasts do not follow the bulb manufacturer's advice as to the use of protective shields for flashbulbs.

Christmas bulb decoration is a further example of the prior art's individual approaches to the problems noted above. The packaging and decoration of the bulbs are normally performed as two separate operations having little or no relationship to each other.

I have now found a particularly effective combined packaging, decorative and safety protective unit for bulbs. Basically, I employ a thin, substantially clear plastic film as a cover layer or skin layer over bulbs mounted on a base support. The plastic film acts as a package forming component and is designed so that the bulb and the portion of the plastic film or skin covering and adhering to the transparent or translucent element of the bulb can be removed by the consumer and surprisingly, will act as a decoration and/or safety layer in the event of bulb explosion. The decoration provides an attractively packaged item as well as a means of coloring or decorating light emanating from the bulb.

More specifically, in addition to acting as a protective layer and packaging means the plastic film can be employed to provide a colored light, viz., a yellow film over an illuminating bulb provides yellow light, a blue film

used over flash bulbs may provide proper lighting for using outdoor film indoors. Similarly, a decorated and/or colored film can be employed to package Christmas tree bulbs.

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 electric bulbs. Holes are formed in a base board and the stem portion of electric bulbs 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 transparent or translucent part of the bulb and bond to the base board supporting said electric bulbs.

The electric bulb or bulbs employed in my invention may be any of the conventional types noted above. When employing flash bulbs, it is possible to utilize a conventional dipped explosion protective layer on the outside of the bulb. In this case the plastic film employed provides an additional explosion protective layer and also prevents the dipped layer from being damaged or removed in handling. In some cases the dipped layer may be eliminated and the plastic film alone provides an explosion protective layer.

The thin transparent or translucent film employed in my invention can be composed of any of the thermo-, plastic 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. Conventional dyes and/or pigments may be employed to color these plastic film materials in applications where colored light is desired.

I have found that nylon polymers are particularly suited for usage in the device of my invention. These polymers have excellent clarity and can be readily processed to conform to conventional electric bulb 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 cardboard material such as kraft board or alternatively plastics, metals, laminates and composite bases may be employed. It is only necessary that the base provide the desired degree of flexibility 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 is 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 cross-sectional view taken along line 4—4 of FIGURE 3.

FIGURE 5 is a side view of a display arrangement for the device of my invention.

FIGURE 6 shows a thin decorated thermoplastic film employed in certain embodiments of my invention.

FIGURE 7 shows a film covered electric bulb.

In the drawings FIGURES 1 and 2 illustrate an electric bulb utility package of this invention. A substantially planar cardboard base is shown at **14**. The base is preferably composed of an uncoated cardboard material having holes **16** therein. The base may be adapted to carry one or more electric bulbs having filaments **11** therein. Holes **16** are preferably equal to or slightly smaller in diameter than the diameter of the stem **13** of the electric bulb inserted therein. The snug fit of the stem portion **13** of the electric bulb aids in retaining the bulb in position on the card with the main axis of the bulb 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.

A conventional flash bulb is illustrated at **17**. The flash bulb **17** comprises a filament **11**, a partially metallic stem **13** and a clear glass portion **12**. The flash bulb is positioned on the base so that the stem **13** passes through hole **16** and one end thereof extends outwardly of a surface of said base. Of course, if a thick board is employed, the stem may be retained entirely within the base.

A clear transparent nylon film **10** is formed over the transparent or translucent portion of the bulb and the base **14**. It should be noted that the nylon material is capable of being deep drawn in close conformance to the configuration of the electric bulb. The plastic film may cover substantially the entire transparent or translucent portion of the bulb as shown or it may extend down and in addition cover a portion of stem **13** if the hole **16** is enlarged or if stem **13** is not entirely recessed into base **14**. The portion **18** is the thinnest part of the film since the film is stretched to its greatest extent at this point during conventional skin packaging by vacuum techniques, The main advantages of nylon film is that it can be deep drawn by vacuum to a greater extent than most other plastics and will readily adhere to an uncoated cardboard base. When packaging items such as flash bulbs having a substantial height to width ratio, nylon is particularly suitable. The nylon film **10** bonds to the uncoated cardboard base **14** at the surface thereof. The film acts to retain the position of the bulb with respect to the board.

As a result of the thinnings of the film and the small diameter at configuration **18**, the bulb can be readily removed from the base by hand. Preferably a twisting motion is employed as shown at **19** to break the film and the bulb is raised from the board with the plastic film adhering to the transparent or translucent portion thereof as shown in FIGURE 7. If desired, the film can be perforated, slit or stamped at the circumference of the stem as at **18** in order to facilitate easy separation of the plastic film.

FIGURE 4 illustrates an alternate embodiment of my invention wherein the plastic film **10** does not conform closely to the entire surface of an electric bulb. Although only one electric bulb is shown, it is obvious that any desired number may be employed. Space **9** 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. **20** are employed to facilitate removal of the bulb. The slits, perforations, indentations, etc. may be formed in the film allowing removal of the bulb and film from the base. Alternatively the slits, perforations, indentations, etc. can be formed in the base as well as the film thus enabling removal of a portion of the base and the film with the bulb. The latter expedient can be employed where the stem **13** is long enough to be inserted in a socket with the base portion thereon.

A decorated film **60** is illustrated at FIGURE 6. Decorations **61** are preferably formed by conventional printing methods (e.g., flexographic, rotogravue, etc.) on film **60** previous to vacuum drawing of the film over the bulbs. For example, stars, Christmas trees, etc. may be employed in a regular or irregular pattern. A bulb, skin packed in decorated film, may be employed for decorative uses such as Christmas tree lights.

The plastic film employed is preferably a substantially uniform film having a thickness previous to skin packaging of 0.0005 to 0.010 inch with about 0.001 to 0.005 inch being preferred. Thicknesses within these ranges provide commercially efficient, easily separable, utility packages of this invention.

Many arrangements for display and shipment of the devices of my invention are possible. A particularly advantageous display and shipping arrangement is shown in FIGURE 5. The base is bent into a rectangular shape as at **53** and holes **54** are provided therein. The electric bulbs are positioned on the base allowing nesting of the bulbs of one package with the bulbs of an adjacent package as at **55**. A display or shipping prong **50** carries the packages and allows easy removal of the packages for sale thereof.

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 combined packaging, decorative and safety protective device comprising:
   - a base of substantially rectangular shape;
   - said base having two parallel side portions, connected by end portions so as to define a hollow space therebetween;
   - one of said side portions having a plurality of spaced openings therein, each adapted to receive the stem portion of a light bulb inserted therein;
   - the other of said side portions also having a plurality of spaced openings therein, each adapted to receive the stem portion of a light bulb inserted therein;
   - said opening in said one side portion being in staggered relationship with respect to the openings in said other side portion;
   - a plurality of electric bulbs, each having an elongated metallic stem portion, and a bulbous portion attached to one end of said metallic stem portion at a reduced diameter portion of said bulbous portion;
   - said stem portions of said bulbs being disposed in the openings in the side portions of the base;
   - the stem portions of the bulbs being of a length no greater than the space between the side portions of the base, whereby the bulbs are supported on the base member in perpendicular relationship to the side portions with the bulbous portions upstanding from the side portions of the base and the stem portions of the bulbs being disposed in staggered relationship and contained within the hollow space defined by the side and end portions of the base;
   - each of said bulbs having substantially all of the bulbous portion thereof covered by a thin thermoplastic film member which conforms closely to the configuration of the bulbous portion and extends over and is bonded to said side portions of the base member;
   - whereby the bulbous portions upstanding from the side portions of the base are covered by the protective film member; and whereby each of the bulbs along with that portion of the film member which covers the bulbous portion of the bulbs can be readily removed from the base portion of the packaging device;
   - the removed portion of the film member remaining in closely conforming relationship to said bulbous portion.

2. The device of claim 1 including means provided in said film member for allowing said bulb, and a portion

of said film member to be removed from the remainder of the device.

3. The device of claim 1 wherein said film is colored.

4. The device of claim 1 wherein said film is nylon.

5. The device of claim 4 wherein said film has a thickness of from 0.0005 to 0.010 inch.

References Cited by the Examiner

UNITED STATES PATENTS

2,293,529	8/42	Bedford	220—2.1
2,302,045	11/42	Neuman	206—78
2,828,799	4/58	Harrison	156—84
2,852,134	9/58	Werner.	
2,861,405	11/58	Hanford.	
2,883,047	4/59	Candell	206—65

FOREIGN PATENTS

1,113,475	12/55	France.
784,503	10/57	Great Britain.

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