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B. FINEMAN ETAL

3,326,372

PACKAGE AND PACKAGING TECHNIQUE

Filed May 28, 1964

FIG. 1

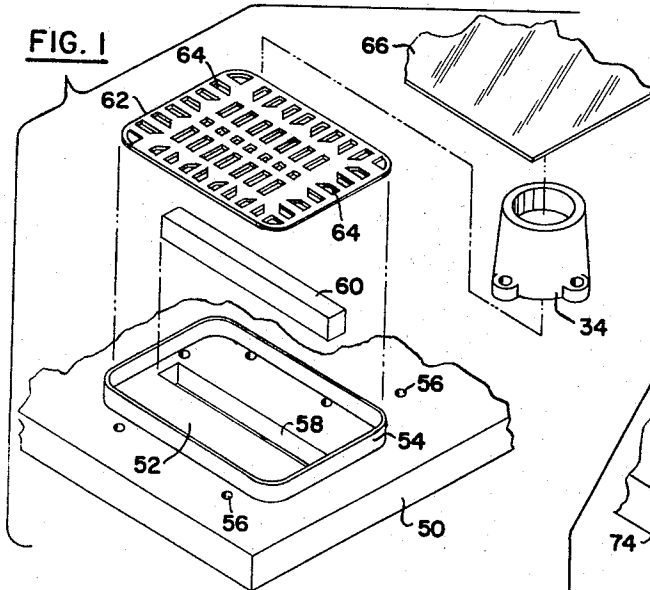


FIG. 2

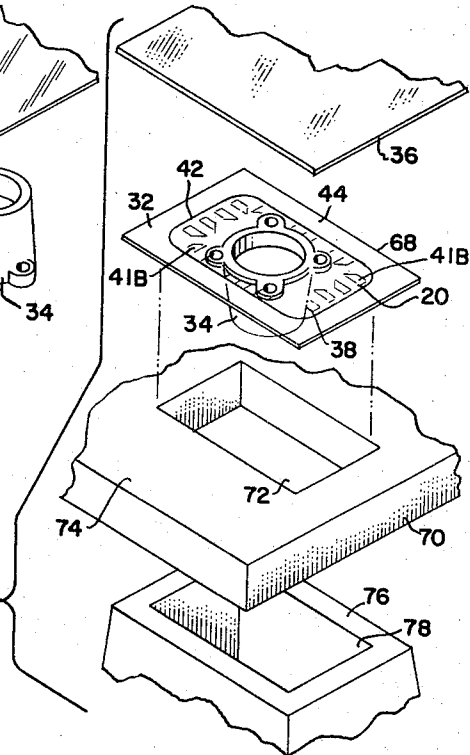


FIG. 3

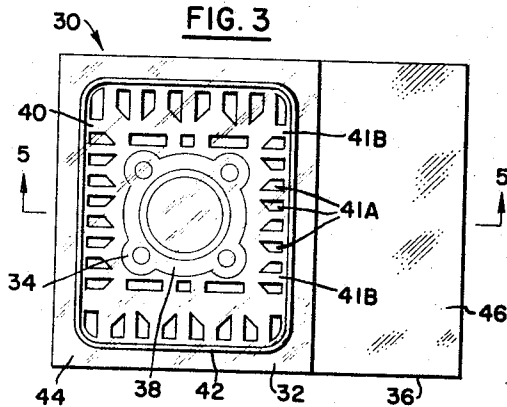


FIG. 4

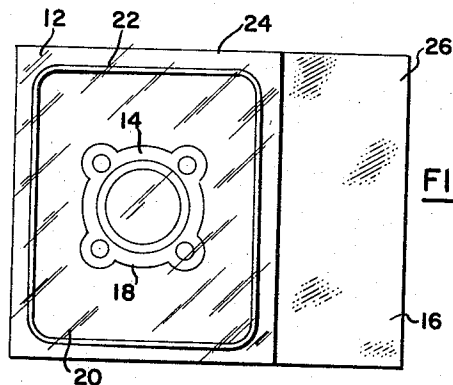


FIG. 6

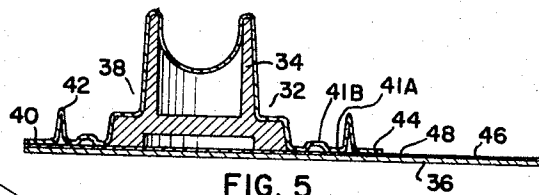
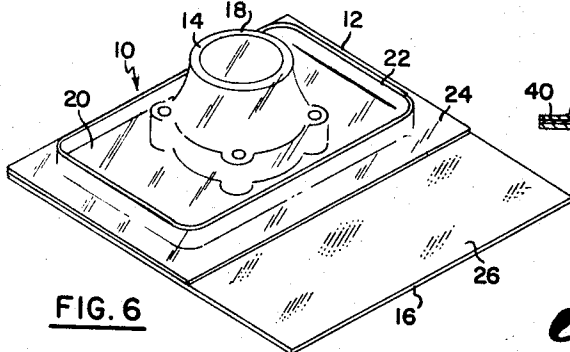


FIG. 5

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PACKAGE AND PACKAGING TECHNIQUE

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2 Claims. (Cl. 206—80)

It is known to provide packaging of small articles in a form known as a "Blister Package." In this form there is provided a pre-formed plastic cover with a central chamber which encloses the article to be packaged with the plastic cover being secured to a backing. This form of packaging has presented certain problems because of the techniques utilized in forming the pre-formed transparent covering. Also, the blister defines an area generally larger than the article being packaged and thus the article undergoes considerable tumbling and vibration during transportation. Various skin packaging techniques have also been developed but since these involve a stretching operation, they have proved to be costly and somewhat unreliable.

It is therefore a principal object of the present invention to provide a novel package and packaging technique which overcomes the shortcomings of the prior art.

The foregoing as well as other objects of the invention are achieved by providing a novel package which comprises a cellulose acetate facing tightly adhering about an article which is in turn held by the facing against a base. The facing includes an envelope which conforms to the shape of the article, an integral backing which is adhered to the base, a peripheral upstanding wall extending from the facing enclosing the backing and a flange extending from the wall. In one embodiment of the invention, the facing is embossed through the use of a novel process step. The embossing adds beauty and versatility to the present invention as well as having the effect of considerably strengthening the backing. Furthermore, the aforesaid embossed facing is achieved through the use of a novel grid which may be of a metallic magnetizable material. When this is done a magnet may be associated with the grid so that metallic articles being packaged will be held in place during the novel packaging technique of the present invention.

Other objects and many of the attendant advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

FIG. 1 is an exploded perspective view showing the first step in the novel packaging technique of the present invention wherein a sub-assembly of the facing and the article to be packaged is produced;

FIG. 2 is an exploded fragmentary perspective view of the final step in the novel packaging technique of the present invention wherein the aforesaid sub-assembly is secured to a base;

FIG. 3 is a top plan view of an article produced by the process shown in FIGS. 1 and 2;

FIG. 4 is an article produced by the process of FIGS. 1 and 2 wherein the grid has been eliminated;

FIG. 5 is a sectional view taken along the lines 5—5 of FIG. 3; and

FIG. 6 is a perspective view of the package of FIG. 4.

Referring now in greater detail to the various figures of the drawing wherein like reference characters refer to like parts, there is shown in FIG. 6 a package 10 constituting a first embodiment of the present invention. The package 10 basically comprises a facing 12 which encloses an article 14, the facing 12 being secured to a base 16. The facing 12 may be of a transparent flexible plastic packaging material such as cellulose acetate, and the base 16 may be of a somewhat stiff paperboard carrying a

coating of a heat sensitive adhesive for a purpose which will be described hereinafter. As shown in various figures of the drawing, the article 14 being packaged is a light bulb receptacle. However, it will be obvious that the packaging technique of the present invention is applicable to a wide range of articles of varying shapes and sizes.

As further shown in FIG. 6, the facing 12 comprises an envelope 18 which tightly adheres to the article 14 being packaged. A backing 20 is formed peripherally of the envelope 18, and as shown in FIG. 5 the backing is adhered to the base 16. A peripheral upstanding wall 22 defining a rectangular area is formed about backing 20. The wall 22 not only adds a sense of beauty to the finished article but also has an important locating function in the final process step of FIG. 2 as will be described hereinafter. Extending peripherally from the wall 22 is a flange 24 which also adds beauty to the finished article as well as performing a holding function in the packaging step of FIG. 2.

The package 30 of FIG. 3 is similar in many respects to the package 10 of FIG. 6 but has an embossed facing. Thus, the package 30 comprises an embossed facing 32 enclosing article 34 with the embossed facing 32 being secured against base 36 as shown in FIG. 5. The embossed facing 32 comprises an envelope 38 and embossed backing 40 having depressions 41A and ridges 41B which are produced through the use of a grid as will be discussed hereinafter. The package 30 further includes a peripheral wall 42 and a flange 44 that are essentially the same as the peripheral wall 22 and the flange 24. It is to be noted that the package 10 includes a space 26 and the package 30 includes a space 46 in order to receive printed descriptive matter, a trademark or other desired material. As shown in FIG. 5, the base 36 has a heat activatable adhesive coating 48 formed therein whereby the combination of the facing and the article to be packaged is secured to the base 36.

The novel packaging technique of the present invention is shown in FIGS. 1 and 2 and involves the use of a table 50 which has positioned thereon many forming areas such as the forming area 52 shown in FIG. 1. The forming area 52 is defined by a peripheral upstanding ledge 54. A series of vacuum holes 56 are formed in the table 50 in order to draw the facing 12 tightly about the article 14 to be packaged. The forming area 52 also includes an elongated cavity 58 which receives a bar magnet 60 for a purpose which will be described hereinafter.

A grid 62 is positioned in the forming area 52 as generally indicated in FIG. 1. Thus, the forming area is generally of a configuration so as to receive the grid 22. Because of the cavity 58, the bar magnet 60 is essentially recessed to be flush with the top surface of the table 50 and thus the grid 62 will lie against the top surface of the table 50. Where desired the grid 62 may be permanently secured to the table 50. It is to be noted that the grid 62 contains many openings or slots 64. The size, shape and disposition of the slots can, of course, be varied depending upon the pattern of embossment which is to be formed in the facing 32. For instance, the slots 64 may take the form of letters of the alphabet or a particular symbol or trademark which is used by a manufacturer. Thus, the practice of the process of the present invention will automatically result in an embossment having a characteristic attributable to a particular manufacturer.

The first step in the novel packaging technique of the present invention is carried out by positioning article 14 upon the grid 62 in area 52. A cellulose acetate sheet 66 is then positioned above the forming area 52. The cellulose acetate sheet 66 is then substantially instantaneously heated to a temperature in the range of

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its softening point, for instance 300° F. The sheet 66 is then brought downwardly and draped over the article 14 and the forming area 52. The vacuum is then turned on to apply a great deal of internal suction upon the sheet 66 through the vacuum holes 56. Thus, the sheet 66 which is in a somewhat softened condition is caused tightly to adhere to the particular configuration of the article 14 being packaged as shown in FIG. 5. In addition to this, other portions of the sheet 66 are caused to conform to the configuration of the grid 62 as modified by the slots 64 formed therein. Thus, the embossed facing 32 is created. The peripheral ledge 54 causes the upstanding peripheral wall 22 or 42 to be formed since the sheet 66 will abruptly rise and fall as it is draped over the peripheral ledge 54. The flange 44 is formed in a subsequent trimming operation.

The combination of the embossed facing 32 and the article 34 is known as a sub-assembly 68 as shown in FIG. 2. The sub-assembly 68 is easily separated from the grid 62, the ledge 54 and the top of the table 50. Where desired, an appropriate separating agent may be employed.

The sub-assembly 68 is then taken to the jig 70 of FIG. 2. The jig 70 basically comprises a chamber 72 formed in the top surface 74 of the jig 70. The sub-assembly 68 is so positioned on the jig 70, as shown in FIG. 2, that the peripheral wall 42 of the sub-assembly will be received in the chamber 72 with the wall 42 lying closely adjacent to the outer reaches of the chamber 72 so that the wall 42 of the sub-assembly 68 has a locating function. In addition to this, the flange 44 will lie against the top surface 74 of the jig 70. Without the flange 44, the sub-assembly 68 could not be held upon the jig 70.

As further shown in FIG. 2, a heating element 76 with a central clearance 78 is positioned immediately below the jig 70. Because the jig 70 is of a metallic material, the heat from the heating element 76 may be transferred to the flange 44 and thence to the heat activatable adhesive coating 48 on the backing 36 to complete the package. Thus, when the sub-assembly 68 is positioned upon the jig 70, the base 36 is positioned upon the rear surface of the sub-assembly 68 and the heating element 76 brought in contact with the jig 70 in order to complete the package of FIG. 3.

The process of making the package of FIG. 6 is as shown in FIGS. 1 and 2 except the grid is eliminated.

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However, where the grid is used a beautiful embossed backing is obtained which also adds considerable strength and eliminates breakage.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed as the invention is:

1. A package comprising a facing adhering to an article which is thereby held against a base, said facing including an envelope, a backing, a peripheral upstanding wall and a flange, said envelope generally conforming to the shape of said article, said backing being integral with said envelope and being adhered to said base, said peripheral upstanding wall extending from said backing and said flange extending from said wall, said backing being embossed.

2. The invention of claim 1 wherein the remainder of said facing is non-embossed.

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