

[54] CARDED PACKAGE

[75] Inventors: William Spiegel, Southampton;
Jacob Spiegel, Philadelphia, both of
Pa.; Albert Miller, Somerdale, N.J.

[73] Assignee: Gilbreth Company, Cornwells
Heights, Pa.; by said Miller

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215/37 A; 53/30

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Primary Examiner—George E. Lowrance

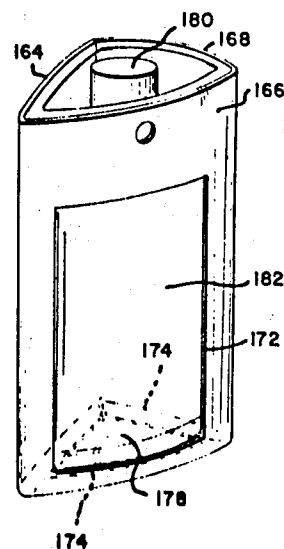
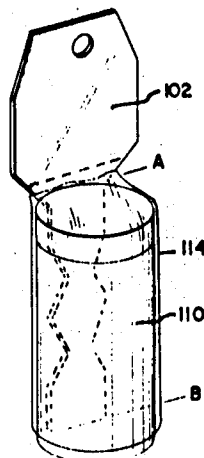
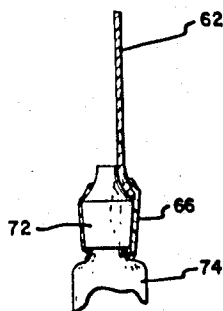
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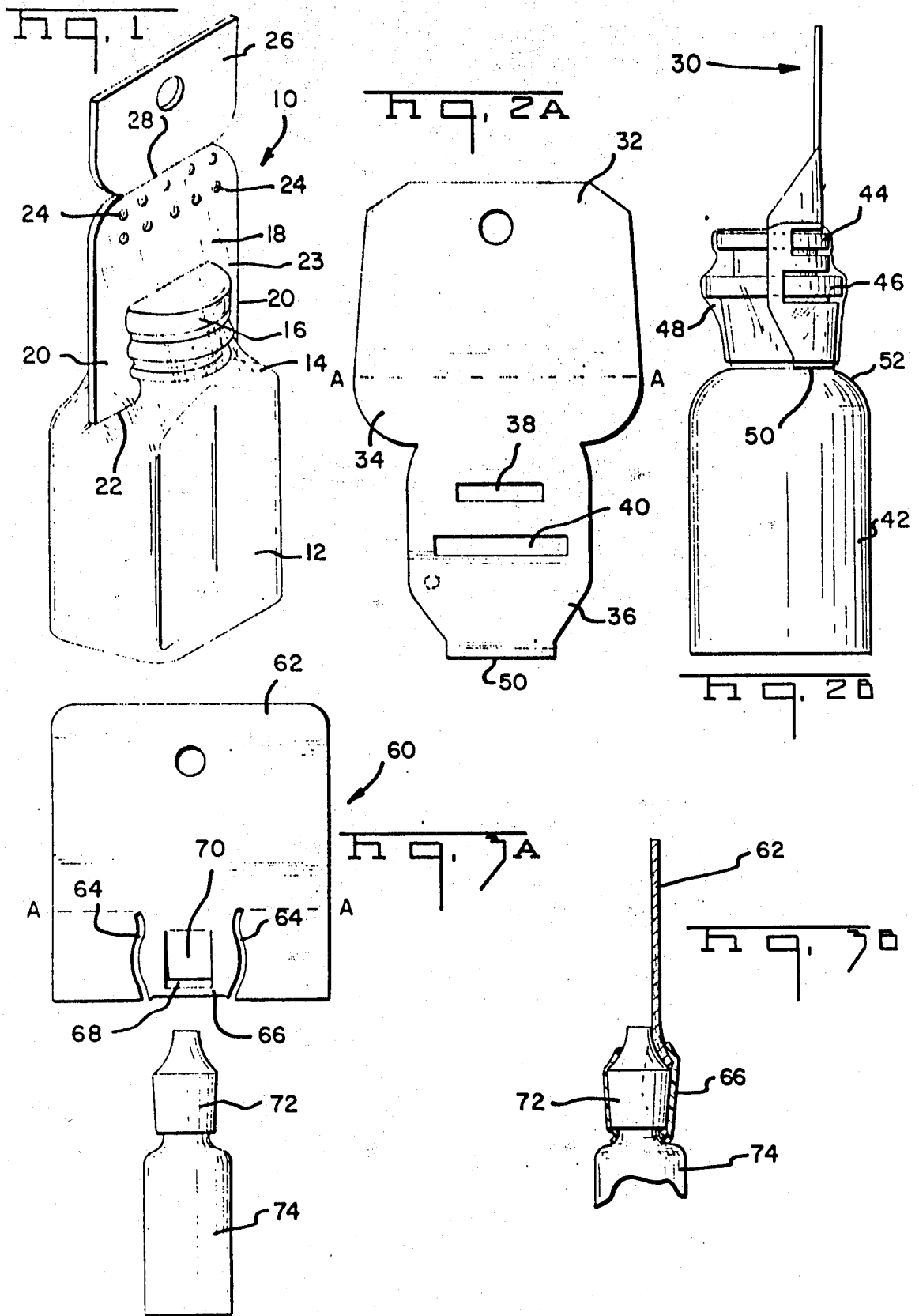
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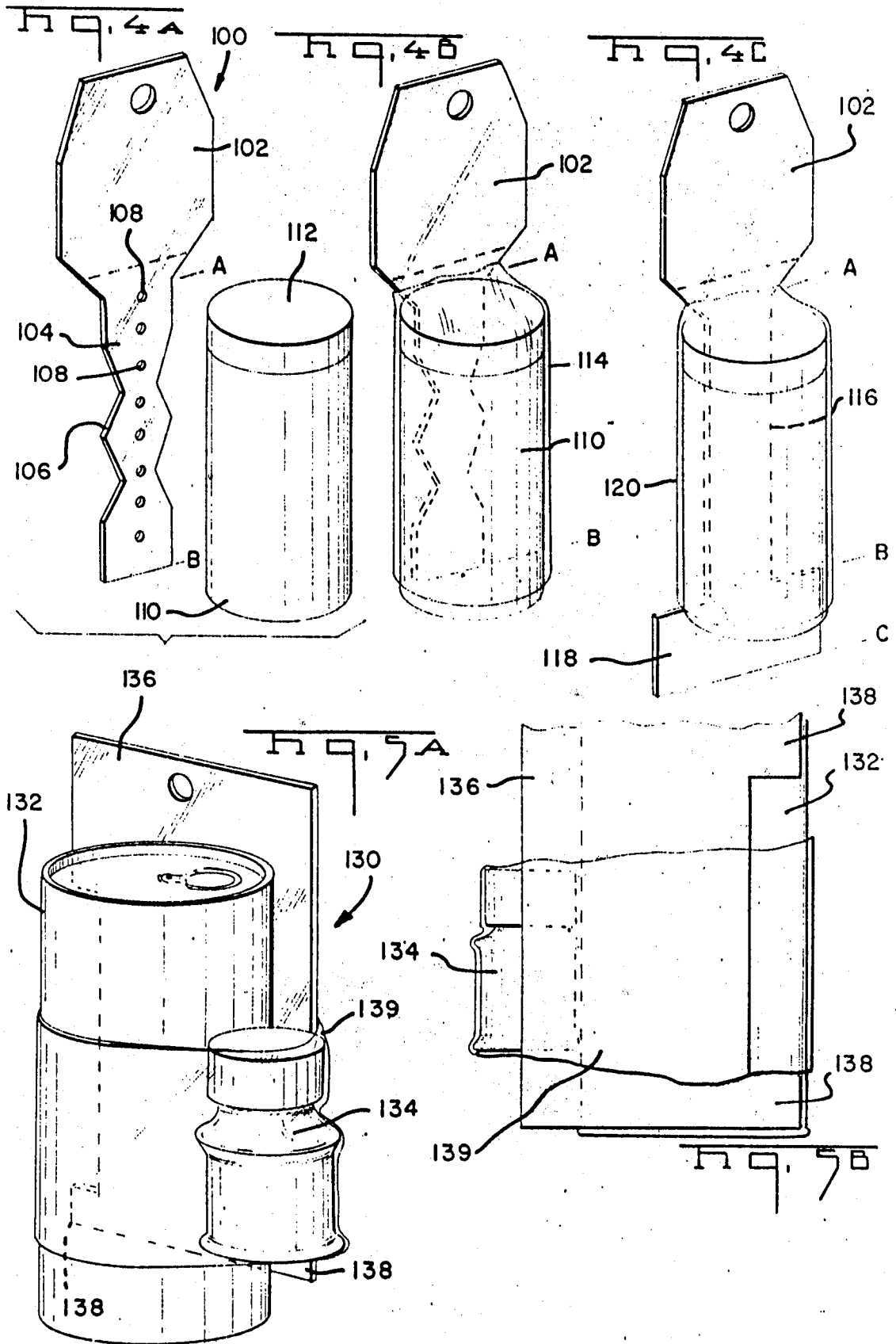
[57] ABSTRACT

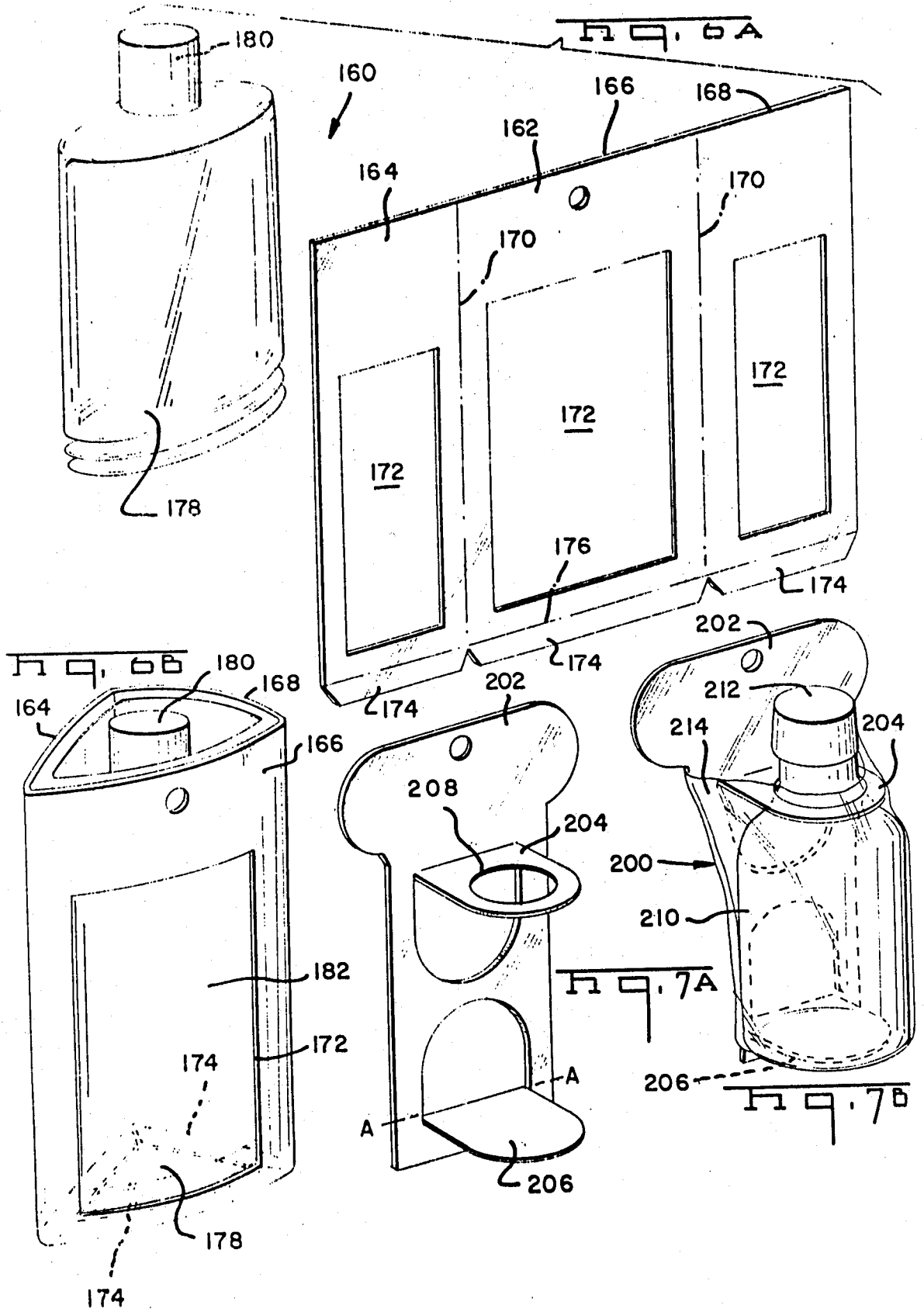
A carded package comprising a container and a card, and a heat shrinkable tube in contact with at least one of said container and card in order to make a package. In certain embodiments of the invention, the card specifically engages the container cap and the heat shrinkable band encircles the card and the exposed portion of the cap. In other embodiments of the invention, the card is contoured to give adequate gripping surface for the band in holding the container to the card. In some instances, the heat shrinkable band will hold more than one container to the card, and in yet another embodiment of the invention the card will essentially embrace the container, with the heat shrinkable band encircling the card. Still another embodiment of the invention uses tabs extending from the card in order to hold the container or, alternatively, to hold the heat shrinkable tubing. In the latter case, the container is then slipped into the heat shrinkable tubing. As an alternative form, the card may have slots or notches in order to hold the heat shrinkable band securely to the card. In yet another embodiment of the invention, the tube is secured to the card by means of either a line of adhesive or a spot of adhesive. In all cases, heat is applied to the finished package in order that the tubing will shrink to apply pressure to the container and the card in order to produce a stable, attractive package. In all cases, the terms "band" and "tube" are used interchangeably.

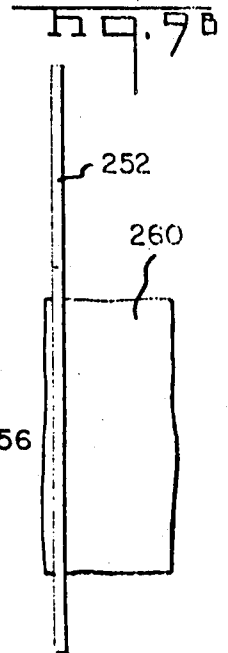
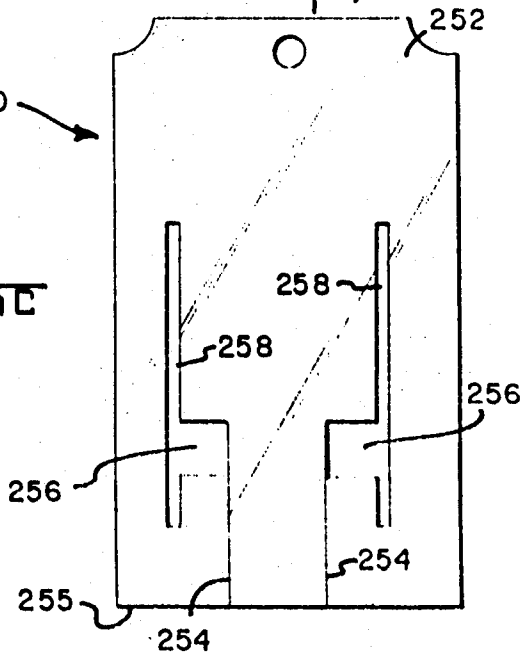
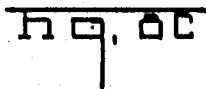
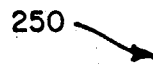
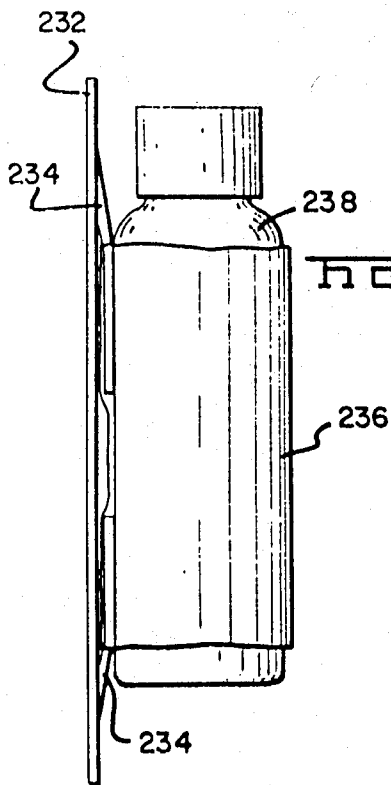
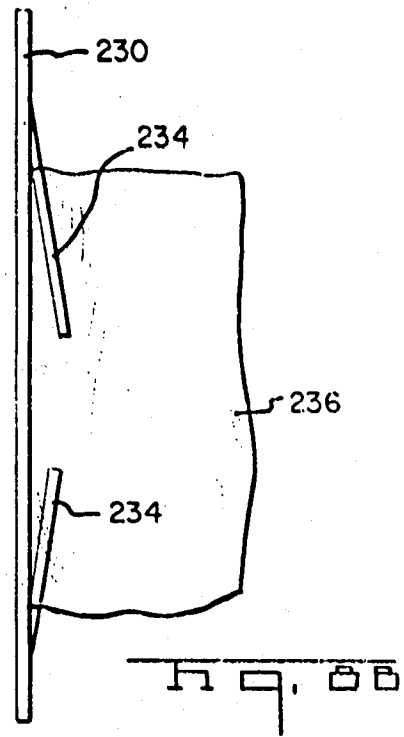
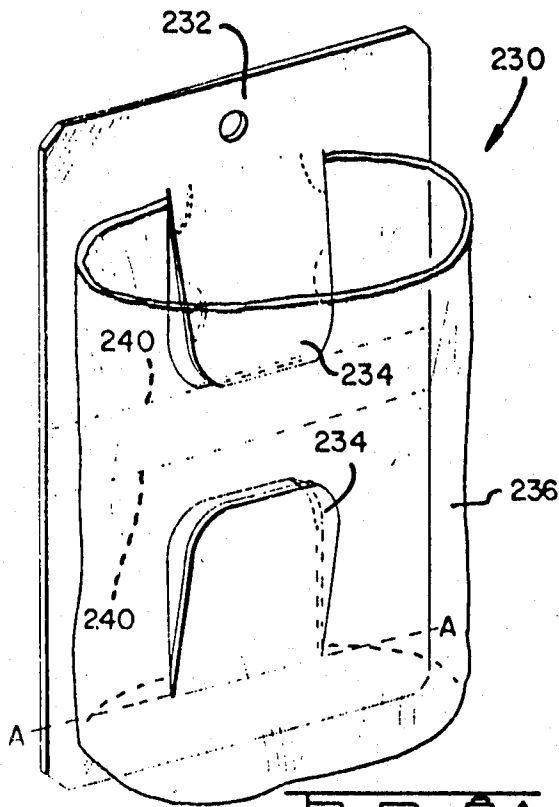
6 Claims, 26 Drawing Figures

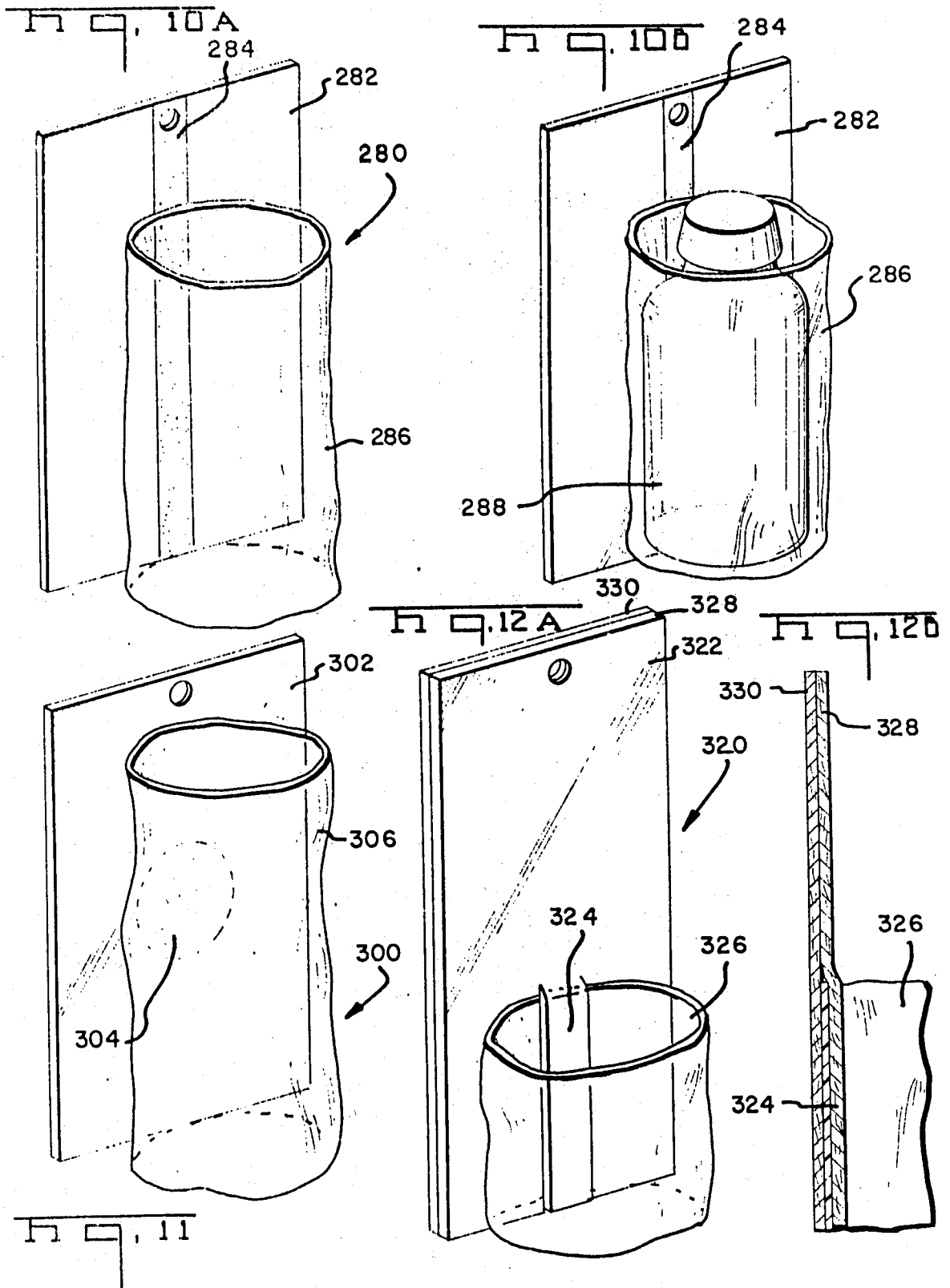


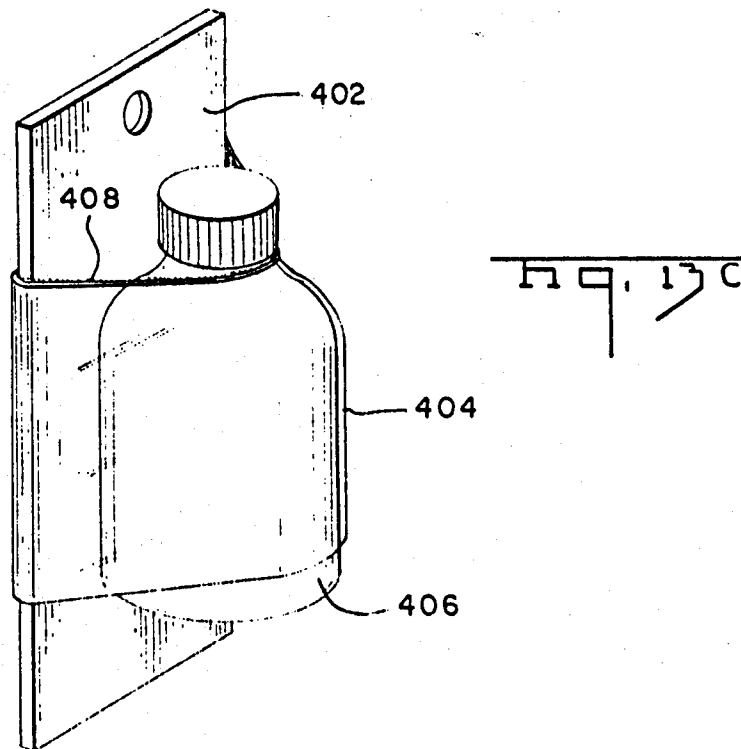
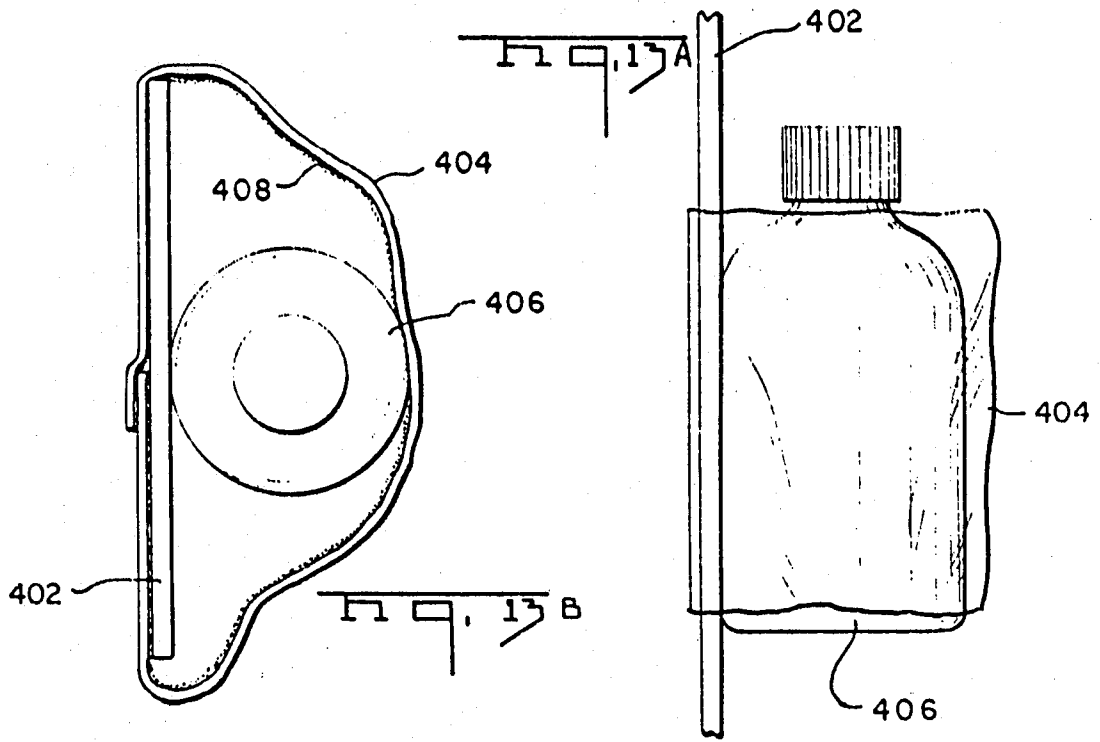












CARDED PACKAGE

This is a division of application Ser. No. 138,056, filed Apr. 28, 1971, now U.S. Pat. No. 3,764,002.

This invention relates to a carded package and particularly to a novel and highly versatile type of package.

There are, in general, three basic types of packages. The first type of package involves a thermo-formed plastic cup which is either heat sealed onto a card or held between layers of a multi-layer card, usually in an opening. This is commonly referred to as a blister pack.

The second type is called "Skin Pack". In this method the product is used as a mold or die. The extruded thermoplastic shrink film is flowed on the card in a vacuum and immobilizes the product.

A third type is called "Stretch Pack" and uses a die-cut card with a plastic window. The card is put over an open mold and a vacuum applied, whereupon the film takes the contour of the mold. The card is then folded over the product which is encased between two layers of film. Hot air then shrinks the film around the product to hold it tightly.

The present invention offers the following advantages over these above methods:

1. Due to use of a smaller board, it requires less shelf space.
2. The product can often be either spindled or self-standing.
3. A tear tab with perforations can be readily added to facilitate removal of the product from the card which is often difficult with the other methods.
4. It is useful for large containers which are often difficult to package with other methods.

Accordingly, it is an object of the present invention to provide a carded package which can be produced at high speed and low cost since less card material can be used.

Yet another object of the present invention is to provide a carded package which is extremely attractive.

Still another object of the present invention is to provide a carded package which will readily accept printing or descriptive matter on the film material and/or the card.

Still another object of the present invention is to provide a carded package which is highly versatile and which minimizes the need of special components for each package.

Still another object of the present invention is to provide a package which can be suspended from a hook or spindle.

The foregoing as well as other objects of the invention are achieved by providing an improved package that comprises a container, a band of thermoplastic heat shrinkable tubing in contact with one or both of the container and card in order to make a package. The card may specifically engage the container cap or the container may be simply physically held to the card by the heat shrinkable band. The card may essentially embrace the container or the heat shrinkable band can hold more than one container to the card. Tabs may extend from the card in order to hold the container or, alternatively, to hold the heat shrinkable tubing. The card may be formed with slots or notches in order to hold the heat shrinkable tubing or the heat shrinkable tubing can be adhesively adhered to the card by either a line of adhesive or a spot of adhesive.

In all cases, the package is completed by elevating the temperature such that the heat shrinkable band will

shrink so that the container, card and band will be brought together to produce a stable package.

The card may be ornamented or may carry printed matter, such that the card can function as a label. The tubing can be either seamless or made from film with a seam and is readily available on the market. The tubing may be plain or it may be attractively colored.

In certain instances, the interior surface of the tubing may be provided with a heat reactive coating in order to enhance the bond between the tubing and the container or bottle.

Other objects and many of the attendant advantages of this 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 a three dimensional view showing a first embodiment of the invention;

FIG. 2-A is a plan view showing a card used for a second embodiment of the invention;

FIG. 2-B is an elevational view showing the card of FIG. 2-A secured to a container as a package;

FIG. 3-A is a plan view showing another card about to be secured to a container;

FIG. 3-B is a fragmentary elevational view, with parts in section, showing fully assembled the package of FIG. 3-A;

FIGS. 4-A, 4-B and 4-C are views showing another form of card that is used with the container that does not have a protruding lip;

FIGS. 5-A and 5-B are views showing two containers secured to a single card;

FIG. 6-A is a three dimensional view showing a card which surrounds the container, and FIG. 6-B shows the completed package;

FIG. 7-A is a three dimensional view showing a card having means to hold the container;

FIG. 7-B is a view showing a completed package involving the card of FIG. 7-A;

FIG. 8-A is a view showing a piece of heat shrinkable tubing secured to a card through the tabs of the card; FIG. 8-B is an elevational view of the assembly of FIG. 8-A;

FIG. 8-C is a view similar to FIG. 8-B but showing a bottle inserted in the heat shrinkable tubing and with the tubing shrunk to final condition;

FIG. 9-A is a view of another card including slots that are constructed to hold a piece of heat shrinkable tubing in a manner similar to FIG. 8-A;

FIG. 9-B is an elevational view of the card of FIG. 9-A with a piece of tubing inserted in place;

FIG. 10-A is a view of another card having a line of adhesive securing a piece of heat shrinkable tubing to the card;

FIG. 10-B is a view similar to FIG. 10-A, but wherein a container has been inserted in the tubing;

FIG. 11 is a view similar to FIG. 10-A but wherein the adhesive is confined to a limited area of any shape;

FIG. 12-A is a view of a two-ply card having a tongue for holding a piece of heat shrinkable tubing;

FIG. 12-B is a side elevational view of the card of FIG. 12-A; and

FIGS. 13-A, 13-B and 13-C are views of yet another form of the invention wherein a coating of heat activatable adhesive is applied to the interior surface of the heat shrinkable tubing.

Referring now to the various figures of the drawings wherein like reference characters refer to like parts, there is shown in FIGS. 1 to 13 various embodiments of the present invention. There are three elements in each embodiment. First, there is the merchandise, such as a bottle, box, tube, vial, can or other container. Second, there is a card having a particular configuration or slot. Third, there is a heat shrinkable tube in the form of a seamless or seamed band cut to size.

The heat shrinkable tube may be transparent to permit visibility of the carded merchandise, but may also be translucent or opaque and of varying colors. Also, the heat shrinkable tube may contain printing.

It will be seen that in the first seven embodiments of the invention, the merchandise is initially placed in contact with or adjacent to the card and then the heat shrinkable tube is applied. In the latter embodiments of the invention, the heat shrinkable tube is initially placed in contact with the card, and then the merchandise is inserted.

The final step in all cases is to shrink the tube in place. The heat shrinking step can be carried out in various ways known to the art including the use of a heat gun or a conventional heat tunnel.

Where the term "card" is used, it is intended that such a term may be broadly construed to include not only conventional cardboard, but also plastics, metal and other materials used singly or in combination, well known to those skilled in the art.

Reference is now made to FIG. 1 which shows a card secured to a cap and resting upon the neck of a bottle.

It will be seen from FIG. 1 that the package 10 includes bottle 12 having upper portion 14 that terminates in a neck that receives a cap 16. The card 18 includes a cut away portion in which cap 16 is positioned, and the cut away portion includes ridges and valleys corresponding to the contours of the cap 16. The card 18 also includes side portions 20 that slip about the cap 16, with the lower edges 22 of the side portions 20 resting upon the upper portion of the bottle 12. The heat shrinkable tubing is simply slipped about the portion of the card 18 and cap 16 and then shrunk in place. Where desired, a series of perforations 24 may be formed in the card 18 in order to enhance the adhesion of the heat shrinkable tubing to the card 18.

As further shown in FIG. 1, the card 18 also includes an upper extension 22 which may be removable by severance along line 28. The upper portion 26 is optional for the purpose of receiving printed information, and can include a hole for hanging on a hook or spindle.

In some instances, the side extensions 22 of the card 18 may be extended completely or partially down the sides of the bottle 12.

Reference is now made to package 30 of FIG. 2-B wherein the bottle or the cap has a pronounced lip.

The card 32 is shown in FIG. 2-A as possessing a head portion 34, from which extends the cap engaging portion 36 having slots 38 and 40 to receive the lips of the container or cap. Clearly, where the cap or container has only one lip, then only one of the slots 38 and 40 need be supplied.

In use, the card 32 is brought in contact with container 42 so that the lips 44 and 46 are received respectively in slots 38 and 40. As shown in FIG. 2-B, the card may be curved as allowed by the contour of the upper portion of the bottle. A heat shrink band 48 is then simply applied in the same manner as heat shrink band 23

of FIG. 1. It is to be noted that the lower edge 50 of the card 32 rests on the shoulder 52 of the bottle 42. Also, the card may be preformed to be a three dimensional curve or straight sided figure. The card may also contain a hole in the upper portion suitable for suspending the package from a hook or spindle.

FIG. 3-A and FIG. 3-B shows a package that is created where the bottle or cap do not have a pronounced lip. Here, the package 60 includes a card 62 having two cut away areas 64 that define a tongue in which is formed a hole 68 which may optionally include flap 70. The cap 72 of bottle 74 is seated in the hole 68, with the tongue 66 being wrapped about the cap 72 as shown in FIG. 3-B. The card may also contain a hole suitable for suspending the package from a hook or spindle.

Reference is now made to FIGS. 4-A, 4-B and 4-C which show another embodiment 100 of the invention to create a package where there is inadequate lip area to hold a bottle to the card. In this embodiment of the invention, the card 102 includes a narrow depending tongue 104 that in some cases will have fluted sides 106 and/or openings 108 to enhance the securement of the card 102 to the bottle 110 having cap 112.

After the bottle 110 and the card 102 are brought together, the heat shrink band 114 is positioned about the bottle 110 and the tongue 104 and heat is applied in the normal way. In some cases, the fluted sides 106 may be dispensed with and replaced by straight edges.

In other cases, the card 102 may include a depending section 116 having straight edges which terminate in a somewhat wider bottom portion 118. The heat shrink band 120 is placed about only essentially the middle portion of the package, with the wider portion 118 preventing the heat shrink band 120 from working its way off the package. In FIGS. 4-A, 4-B and 4-C, the upper portion of the card 102 may receive printing.

Where the bottle has a lip, a suitable slot may be provided in the card 102, and also the wider bottom section 118 may, in some cases, be bent under the bottle 116.

Another embodiment of the invention is shown at 130 in FIG. 5-A wherein two containers are secured together and to a card. In the embodiment of FIG. 5-A, a can 132 and a bottle 134 are each held against the card 136, and then a heat shrink band 138 having a width essentially the same as the height of the bottle 134 is slipped in place about the card 136. Heat is then applied in the usual manner.

It will be seen that the card 136 may include a wider bottom and/or top section 138 that essentially forms a notch to facilitate securement of the card to the container.

It should also be noted that the devices of FIG. 5-B may also include a card that can be bent to the contour of the bottle or container. In some cases, it may be desired to prebend the card into a three dimensional form, depending upon assembly techniques that are available. In other cases, the shrink energy of the band is sufficient to bend the card to fit the contour of the container without prebending or forming.

Reference is now made to FIGS. 6-A and 6-B which show embodiment 160 that is comprised of two or more panels or, in the case of FIG. 6-A, three panels. It will be seen that the card 162 includes three panels 164, 166 and 168 that are defined by fold lines 170. Each panel includes a large cut away section 172 and

depending flaps 174 that can be folded under along lines 176.

As shown in FIG. 6-B, the card 162 is folded so that it embraces the bottle 178 which has cap 180. The flaps 174 are folded underneath the bottle and act as a retainer. A heat shrinkable band is simply telescoped about at least the middle portion of the panels 164, 166 and 168, and then heat is applied in order to make a compact package wherein the bottle 178 can be seen through the cut away areas 172. This construction eliminates the need for gluing the sides together and the shrink band can cover the top and/or bottom of the package.

Another embodiment wherein the container and the card are first assembled is shown in FIGS. 7-A and 7-B as embodiment 200 wherein card 202 has cut away ears 204 and 206. The upper ear 204 has an opening 208 which receives the neck portion of bottle 210 having cap 212.

The lower ear 206 serves to support the bottle 210. A heat shrinkable band 214 is simply applied about the card 202 and the bottle 210 in order to produce an economical package when heat is applied. A variation of this is illustrated also in FIG. 7-A where the lower ear is eliminated and the lower portion of the card cut off as illustrated, for example, by the line A-A. This makes the package capable of standing by itself and not needing a spindle or hook for display.

Reference is now made to FIGS. 8-A, 8-B and 8-C wherein card 232 has at least one and preferably two cut out flaps 234 that serve to hold heat shrinkable tubing 236 in a manner as best seen in FIG. 8-B. It will be seen that the heat shrinkable tube 236 is slipped between one or both of the flaps 234 and the card 232.

Once the heat shrinkable tubing 236 is in place, a bottle 238 is slipped into the heat shrinkable tube 236 and then heat applied in order to shrink the tubing 236 and complete the package. It will be seen from FIG. 8-A that a series of indentations assist in breaking the card 232 away and separating it from the heat shrinkable tubing 236 and the bottle 238. A variation of this is illustrated in FIG. 8-A where the lower ear is eliminated and the lower portion of the card cut off as illustrated, for example, by the line A-A. This makes the package capable of standing by itself and not needing a spindle or hook for display.

Another embodiment 250 of the invention is shown in FIG. 9-A and FIG. 9-B wherein the card 252 has cut lines 254 adjacent to the bottom 255. The cut lines 254 connect with open areas 256 that communicate with elongated slots 258. The heat shrinkable tubing 260 is seated in the slots 258 by virtue of the access allowed by cut lines 254 so that the heat shrinkable tubing can be threaded through the cut lines 254, into openings 256 and then led into the slots 258. As in FIG. 8-C, the bottle is then slipped into the heat shrinkable tubing and heat applied to complete the package.

Reference is now made to FIG. 10-A which shows yet another embodiment 280 of the invention wherein the card 282 has applied to one face a thin line 284 of adhesive. The heat shrinkable tubing 286 is simply adhered to the card 282 along the adhesive line 284. As shown in FIG. 10-B, a bottle 288 is then inserted within the heat shrinkable tubing 286 and heat is applied to complete the package.

In embodiment 300 of FIG. 11, the card 302 has an area of adhesive 304 located within the confines of a

perforated area on the tubing, by which heat shrinkable tubing 306 is attached to the card 302. This embodiment has the advantage of easier removal of the card from the heat shrinkable tubing 306 and its container product allowing the printed tubing to remain on the container to serve as the permanent label of the container as it would be used normally. Therefore:

- a. on card serves as a label and means for mechanically holding to card.
- b. after removal from card, serves as the standard label of the container.

Reference is now made to FIGS. 12-A and 12-B which show embodiment 320 that includes a one or two-ply card 322 having a cut away tongue 324 adjacent the lower portion thereof. A heat shrinkable band 326 is slipped between the tongue 324 and the card 322, and then the container or product is placed in the heat shrinkable band, followed by the application of heat.

As shown in FIG. 12-B, the card 322 is preferably of two plies 328 and 330 so that the heat shrinkable band 326 will be held between the plies 328 and 330. The upper portion of the card 322 is reserved for printing. The card may be of a single ply rather than two ply.

In another embodiment of the invention, the adhesive is coated on one or both sides of the heat shrinkable film and dried before the film is seamed into a tube. The two ends of the film are then taken and bend around the card and adhered or heat sealed to the back side of the card forming a loop as illustrated in FIG. 12.

As will be evident to those skilled in the art, the foregoing examples illustrate some of the various ways, within the scope of the invention, wherein heat shrinkable tubing may be utilized to combine a card and a container.

The heat shrinkable band, in many cases, is easily removed from the card without disturbing the contents. For instance, see the embodiment of FIGS. 12-A and 12-B which also constitute a package having a lower unit cost and wherein the film acts as a label or an advertisement.

It has been found that the heat shrinkable tube avoids the handling problems of the more familiar film. Furthermore, with heat shrinkable tubing, there is no necessity to maintain an inventory of premolded parts.

In many cases, a narrow heat shrinkable band can be used to secure the card to the container either in the cap area of around the body of the container. This will greatly reduce the amount of tubing needed compared to other methods. This is particularly applicable when the adhesive coated tube is used.

The heat shrinkable band may be furnished with a tear strip for ease of opening as contrasted with other packages of the prior art which require the use of a sharp instrument for opening.

Prior to use, the heat shrinkable tubing can be stored flat in the collapsed condition in rolls and cut to size as needed, thereby saving space and reducing inventory. This is also true of the carded band. Furthermore, the card does not necessarily have to be larger than the container as was the case with previous packages.

The heat shrinkable tubing is preferably polyvinyl chloride and can be either seamed or seamless of any desired thickness. It is desirable, but not required, for the tubing to have a high degree of shrinkage in the radial direction and a low shrinkage in the longitudinal direction. An essentially monoaxially oriented film

seamed into a tube makes a highly desirable band material. Such a material will make an attractive package after shrinking into place particularly in the case where the band contains a printed message. However, it should be understood that other materials, such as polyethylene or a polyfluoride or Saran may be employed, and still other materials will occur to those skilled in the art, the only requisite being that the band or tubing will undergo adequate shrinking either through the application of heat or other special physical environment.

In some cases, it may be desirable to apply a heat reactive coating to the interior surface of the tubing, for instance, in the packages of FIGS. 10-A, 10-B and 11. An example of such a heat reactive coating is one that includes, as the active ingredient, ethylene vinyl acetate. This coating becomes active under the application of heat to create a good cohesive bond with a bottle or other container that will be held by the heat shrinkable tubing or band. In some cases, the entire interior surface will be coated and in other cases, the coating will just be applied in a pattern or series of bands. While the bottle or other container will be tightly held, nevertheless, the band can still be easily zipped away in a tearing action.

The band can be made from rolls, of film, by machinery which will cut an unseamed strip of film automatically and apply the same onto the card and the container, then sealing the film into a band. The term "band" or "tubing" as used herein also contemplates this form of the invention.

In all cases, the package, whether held in a jig or fixture, or simply assembled, is then subjected to an elevated temperature of approximately 300°F., but, of course, this temperature will vary in accordance with the specific nature of the heat shrink band or tubing as well as in view of the desired elapsed time of heat application. The heating step may take place in a heat tunnel or the heat may be applied in a jet or by way of a heat gun.

While the band or tubing has been shown and described as having a circular form, in some cases the band or tubing may take on or be given other forms, such as a square or rectangular configuration.

Without further elaboration, the foregoing will so

fully illustrate our invention that others may, by applying current or future knowledge, readily adapt the same for use under various conditions of service.

What is claimed as the invention is:

1. In a package including a bottle having a cap, said package including a heat shrinkable tube and a card, said card including a pair of slots therein spaced from one another to define a tongue therebetween, said tongue wrapping partially around said cap and including an opening receiving a portion of said cap therein, said tube being disposed about said tongue and said cap and heat shrunk thereabout securing the bottle in place on said card.

2. The package of claim 1 wherein said tongue includes a flap portion extending into said opening and in contact with said cap.

3. A package for an article comprising a heat shrinkable tube having a pair of edges and a card, said card extending along the entire length of said article and comprising a first portion from which an elongated, tongue extends, said tongue including at least one edge having at least one gripping notch disposed therein, said article being disposed on said tongue with said tube being tightly shrunk about said article and said tongue with said notch being positioned intermediate the edges of said tube and with one portion of said tube in contact with said notch and with other portions of said tube in contact with edge portions of said tongue laterally of said notch.

4. The package of claim 3 wherein said notch is a V-shaped notch.

5. The package of claim 4 wherein plural V-shaped notches are provided in the edge of said tongue.

6. A package for an article comprising a card having at least one opening therein and a heat shrinkable tube, said card being bent about said article into three panels forming a three-sided package having a triangular cross section to completely encircle said article with said opening exposing a portion thereof, said panels each having an inwardly extending flap which extends transversely to said panel below said article for retaining said article, said tube being heat shrunk and tightly encircling said article and said package.

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