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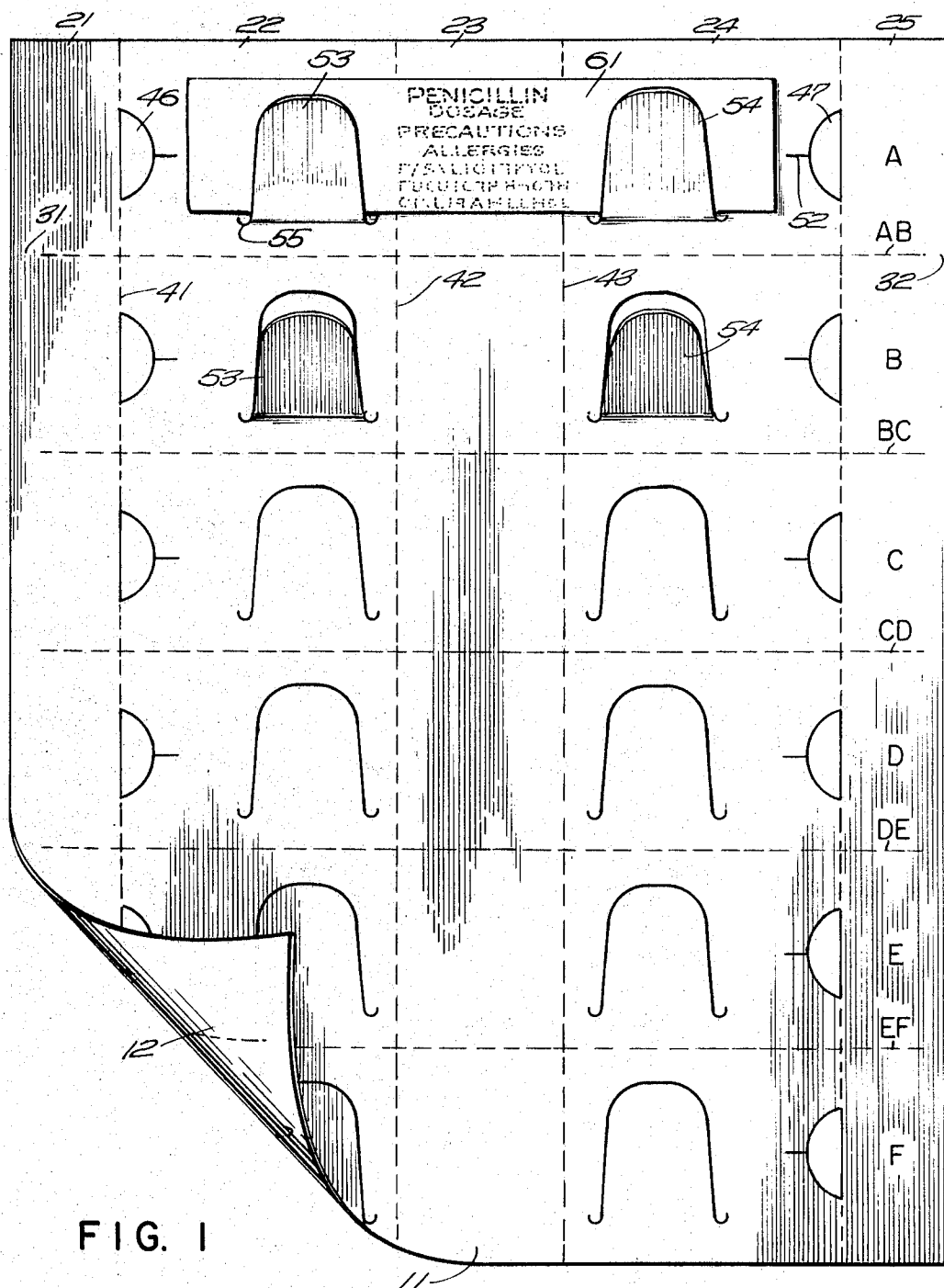
R. J. KROOSS ETAL

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PAPERBOARD PACKAGE

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2 Sheets-Sheet 1



INVENTORS
ROBERT J. KROOSS
RICHARD F. NOVAK
BY

Weingarten, Overhach & Lohr
ATTORNEYS

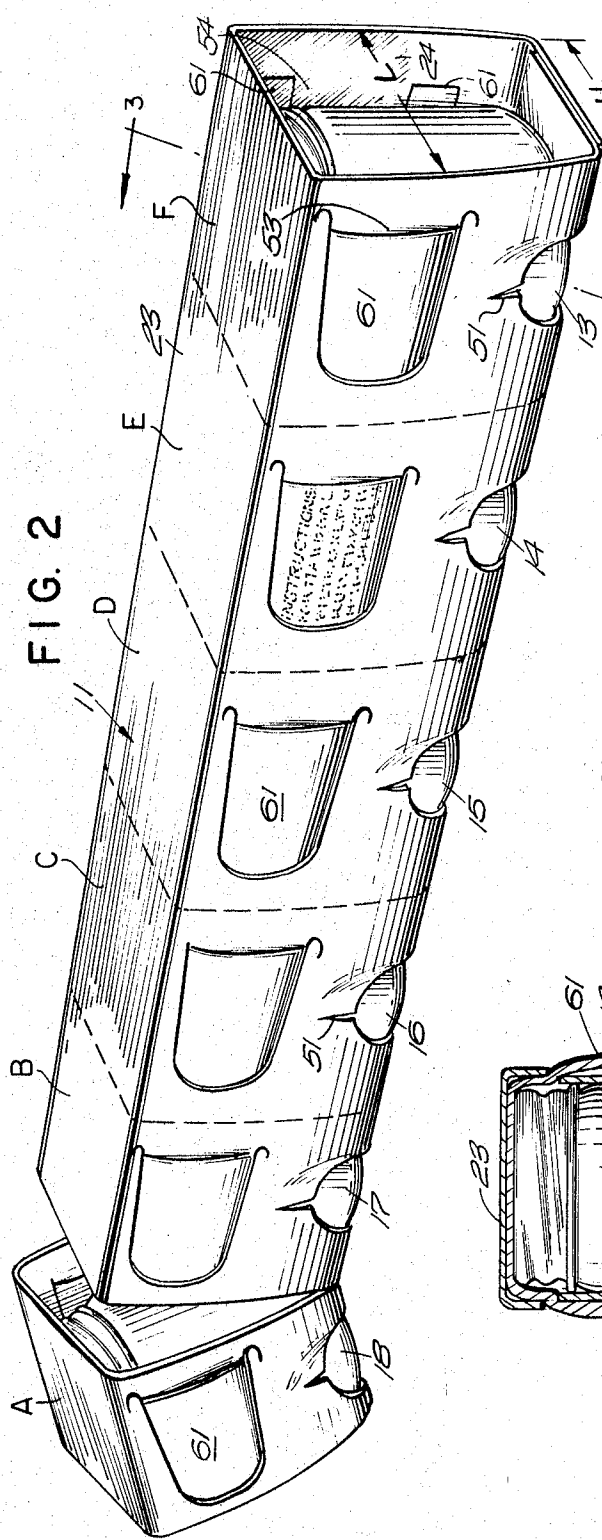
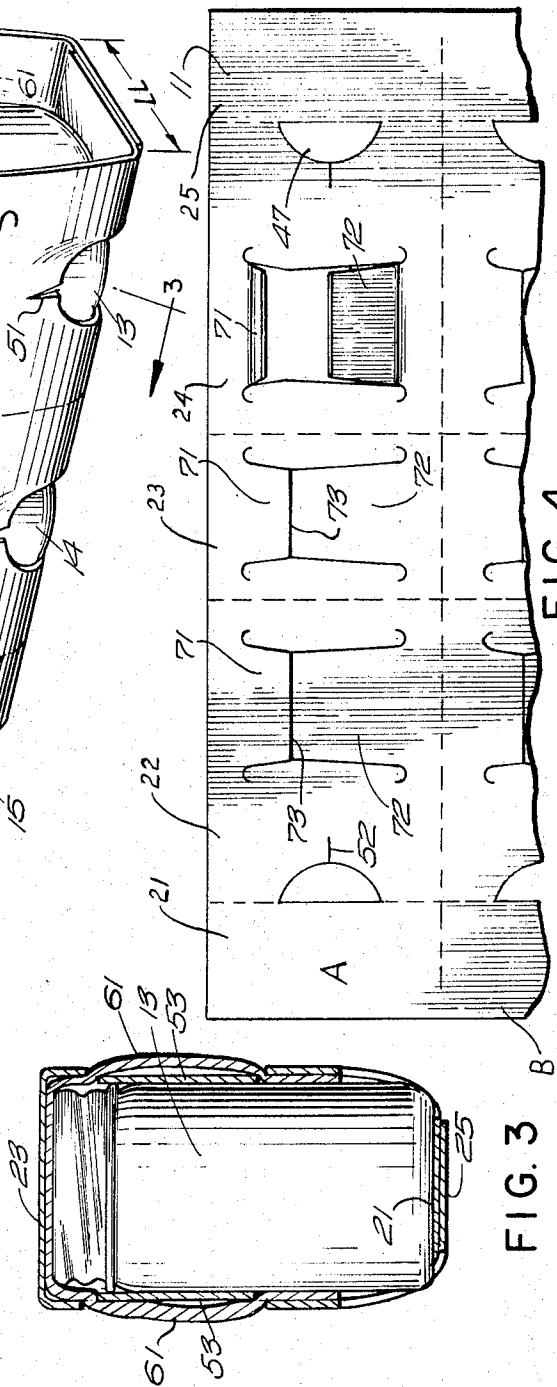
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INVENTORS
ROBERT J. KROOSS
RICHARD F. NOVAK
BY
Weingarten, Orenbuch & Lahine
ATTORNEYS

1

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PAPERBOARD PACKAGE

Robert J. Krooss, Mountain Lakes, and Richard F. Novak,
High Bridge, N.J., assignors to Simautics, Inc., Hillside,
N.J., a corporation of New Jersey

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The present invention relates in general to the technique of packaging containers such as cans or bottles and more particularly concerns a novel, economical overwrap adapted to enclose and retain one or more containers together with a like number of printed matter inserts.

A significant recent development in the packaging art has been the widespread adoption of the paperboard carrier-band, or unitary overwrap for a plurality of containers to facilitate ease of shipment, bulk storage and hand carrying, while simultaneously lowering production and related costs. Perhaps the best known package of this nature, and one which has achieved universal acceptance in the consumer market, is open-ended six-pack carton for beverage cans. Among the many advantages realized are lower unit wrapping costs, elimination of easily damaged loose containers, and the availability of relatively neat, marketable units holding an acceptable number of containers. In addition, this packaging arrangement lends itself ideally to mass handling on automatic package machinery, while the overwrap itself permits printed display of the manufacturers' trademark, sales promotion, and instructions, if any.

Although the retailer of the so-called six-pack most often sells the multi-container carton as a unit, multiple packaging satisfies a need and still provides many advantages even in instances where the receiver of bulk packages thereafter separates and resells the individual units to meet more limited customer demand. The newer package eliminates clumsy egg-crate type separators and corrugated boxes, saving expense, space and time. Further, where the multicontainer carton is separable into smaller multiple packages of one, two or three, etc. units, repackaging for the consumer is that much more convenient.

Circumstances often require that manufacturers or retailers furnish separate instruction sheets, coupons, or promotional literature with their products. In the past, special time-consuming and often costly steps have been necessary to insure proper delivery of this printed matter to the consumer. Where each container is enclosed in an individual box, the printed material may, of course, be "stuffed" into the box prior to insertion of the container, but the individual handling required, and the time and effort expended to ascertain the presence of an insert in every box are extraordinarily high. Cost increase is further accentuated where individual containers must as a matter of law or trade custom be closely associated with certain printed material, a prime example being the packaging of pharmaceutical and medicinal substances. In this connection various statutes and administrative regulations provide that a printed descriptive insert containing, among other things, specifications as to the formulation, typical usage, dosage, precautions and side effects, be placed in close or intimate contact with each individual container before it may be shipped to the pharmacist, hospital, or other user.

Due to the mandatory nature of these provisions, the highest order of reliability is absolutely essential and this in turn has virtually compelled packaging of such products in individual boxes, each containing a copy of the compulsory instruction sheet. It is self-evident that the higher costs thus imposed on the packaging and shipment of medicinal products is a substantial factor in the consumer price.

2

The present invention contemplates and has as a primary object the provision of a package which offers the user all of the significant advantages previously enumerated for the multipackage overwrap while simultaneously permitting economical insertion of printed materials in intimate contact with the individual container with the reliability essential for application to pharmaceutical or medicinal products in compliance with regulations. More specifically, this invention utilizes a paperboard overwrap adapted to retain printed inserts for a single container or a multiplicity thereof to insure safe and secure transportation and storage, while facilitating separation of multiple packages into smaller packs of one, two, three or more containers.

It is another object of this invention to provide an overwrap as aforesaid for multiplicity of containers with a printed brochure in the space assigned for each container, where on separation of the multi-pack into individual or sub-multiples of the whole, each container is retained with a corresponding brochure in intimate contact therewith.

It is a further object of this invention to provide an overwrap for simultaneously packaging a plurality of containers with a like plurality of insert brochures as aforesaid which lends itself readily to high volume, automatic machine packaging.

The underlying element of the package contemplated by this invention is a precut, prescored paperboard sheet which may be conveniently folded to provide a generally rectangular package which physically retains each of the packaged containers in fixed relationship. Plastic containers may contact one another without adverse effect, but glass bottles are preferably maintained in rigid, spaced relationship. Resultantly, normal shock, vibration and other stress to which such packages are subjected in shipment and handling will not cause contact between the glass containers, thus preventing breakage.

The paperboard overwrap of this invention may be completely prefabricated before folded in assembly on the containers to be packaged. A feature of the prefabricated blank is the provision of a series of integral, hinged precut tabs adapted to securely retain the printed insert material.

Another feature of this invention is that the paperboard blank may be preloaded while still flat with the requisite number of printed inserts which may be single sheets, prefolded sheets, or even small booklets. These preloaded blanks may be stored indefinitely prior to use. To complete the packaging step, it is only necessary to wrap a preloaded blank around the appropriate number of containers; as a result, a printed insert is simultaneously placed into close physical contact with each container. In this manner, individual hand loading of printed inserts at the time of packaging is completely avoided; moreover, the final packaging operation inherently eliminates the need to preshape the printed matter to conform with the container, and eliminates the need to wrap each container separately with a printed insert.

Other objects and advantages of the present invention will now become more apparent from the following detailed specification when taken in connection with the accompanying drawing in which:

FIG. 1 is a plan view of the preformed, prescored blank of this invention showing the essential features thereof;

FIG. 2 is a general perspective view of a completed multiple package having six individual containers within a folded blank of the type shown in FIG. 1;

FIG. 3 is a cross-sectional view of the finished package taken along the line 3—3 of FIG. 2, and serves to illustrate the manner in which the blank of FIG. 1 has been folded and the individual container retained in final packaging; and

FIG. 4 is a fragmentary view of a paperboard blank having the general configuration of the blank shown in

3

FIG. 1, with the exception that the printed insert retaining means has been modified for purposes to be described more fully below.

With reference now to the drawing, a preferred embodiment of the paperboard blank which is the underlying structural element of this invention is shown in FIG. 1. The manner in which this paperboard blank is folded and utilized to package six individual containers in a unitary, relatively rigid arrangement is shown in FIGS. 2 and 3.

More specifically, as disclosed in FIG. 1, the paperboard blank 11 is of generally rectangular configuration and is formed of flat sheet stock, preferably of a material known commercially as bending chip, or sulfate coated chip-board or solid bleached sulfate board. This material has inherently high strength, good foldability and, when properly coated, may be pre-printed in color as desired. To preserve the clarity of the drawing, examples of such printing and pictorial illustrations have not been included, but it should be apparent that the chip-board may present the appropriate corporate trademark, address, instructions for shipping and handling, lot number, and the like. To illustrate thickness, the lower left-hand corner 12 of the paperboard blank 11 has been shown curled up, however, it will be understood that in actual use the blank 11 is handled as flat stock.

Blank 11 is adapted, in accordance with the illustration of FIG. 1, for the packaging and retention of six individual container jars 13-18, inclusive, which as illustrated best in FIGS. 2 and 3 are screw-capped glass bottles of a type often used as containers for pharmaceutical pills, tablets, etc. It will become evident as this discussion proceeds that the exact nature of the containers 13-18 is not critical and that these may indeed be of other shapes and of other materials such as polyethylene or metal; however, glass jars have been shown to place special emphasis on the need for reliability in packaging, since glass jars must be retained in secure, separated relationship to avoid breakage or damage during shipment, storage and unpacking.

Returning now to FIG. 1, the paperboard blank 11 is seen to be divided essentially into six integral transverse, or horizontal sections A-F, inclusive and that these in turn are divided into five integral longitudinal, or vertical panels 21-25, inclusive.

The horizontal sections A-F are contiguous and are defined by intermediate tear lines of perforations AB, BC . . . EF, inclusive; which perforate lines are arranged to facilitate tearing or breaking apart of the individual sections, while still providing sufficient strength to prevent such separation except upon the application of an appropriate force.

It should be observed at this point that the perforate lines AB-EF do not extend to the vertical outer edges of the paperboard blank 11, but that instead small unperforate sections such as 31 and 32 are retained upon each such line. Greater structural strength of the unfolded blank is achieved and this facilitates handling through the packaging steps.

The five contiguous vertical panels of the paperboard blank are defined by four parallel scored fold lines 41-44, inclusive. These score lines are die-pressed into the blank and do not perforate the material.

Each of the horizontal sections A-F is formed with a pair of inwardly facing arcuate cutouts 46 and 47 and as is apparent from the drawing, the chordal boundary of each of these cutouts falls on the respective outer score line 41 or 44. Each of these cutouts is also provided with inwardly extending short slits 51 and 52, respectively, thus permitting outward extension of the chip-board in this immediate region.

Finally, each of the horizontal sections A to F is formed with a pair of integral, extendible tabs 53 and 54 in the vertical panels 22 and 24, respectively. These tabs are generally rectangular, but are rounded at the outermost edges thereof. To relieve stresses imposed when the tabs

4

are pivoted, each of the innermost corners of each tab is provided with an outwardly curved, slit portion 55. In effect, this additional small slit permits hinged movement of the tab while minimizing the tendency to tear at the juncture with the blank itself.

For illustrative purposes, the tabs in sections C, D, E, and F are shown flat and in the plane of the chip-board blank. This is the manner in which the tabs 53 and 54 normally appear after the blank has been fabricated. In section B the two tabs 53 and 54 have been shown as hinged upwardly toward the viewer to demonstrate the manner in which these tabs are movable under the application of a small force. In section A, the tabs 53 and 54 are shown as rigidly retaining a printed, flat insert 61 which may be a single sheet of paper of the size shown or a previously arranged multifold document which retains sufficient flexibility to permit further folding in the manner to be described below.

It is significant to note that the printed insert 61 lies wholly within the confines of section A and also falls wholly within the region of section A between the slits 51 and 52. The reasons for this should become obvious upon further reading of this specification. Although only one printed insert 61 is shown (within the tabs 53 and 54 of section A) it is to be noted that in use, all of the sections A-F inclusive will likewise contain inserts 61.

Assume now that paperboard blank 11, shown in FIG. 1, is preloaded with six printed inserts 61 under the tabs 53 and 54 in each of sections A to F. This preloaded blank is then ready for packaging the six cylindrical bottle containers 13-18 previously mentioned in connection with FIGS. 2 and 3. The manner in which this is accomplished is best understood by now turning to FIGS. 2 and 3 which show the paperboard blank 11 folded on the score lines 41-44 and securely wrapped around the containers. It is at once apparent that the preloaded printed inserts 61 have been thereby smoothly and uniformly folded into an inverted U-shape and each disposed in intimate, physical contact with a respective bottle. Each section A to F encompasses one of the bottles and each section contains one printed insert 61.

In folding the blank 11 around the six bottles 13-18, certain salient features should be recognized. Panels 21 and 25 are overlapped as shown in FIGS. 1 and 3 and are glued or otherwise securely fastened together in the overlap area to tightly seal the package. Although not previously mentioned in connection with blank 11 of FIG. 1, panels 21 and 25 or one of them may carry a preapplied coating of adhesive thereon to permit this fastening step with maximum speed and minimum effort. Alternatively, glue may be applied at the time that the blank is folded to the configuration shown in FIGS. 2 and 3 and then securely held until the glue has set.

Another feature which may now be discussed is the fact that the transverse dimension L is somewhat greater than the transverse dimension LL of the glued overlapping panels 21 and 25, and that this dimensional variation is achieved even though the upper and lower diameters of the respective bottle such as 13 are essentially the same. Under the circumstances thus described, paperboard blank 11 in the regions of the slits 51 and 52, will generally bulge or expand outward as shown in FIGS. 2 and 3, thereby forming means for securely retaining each bottle within its respective section. Normal shock and vibration will not dislodge the bottles from the positions shown in FIGS. 2 and 3. By suitably dimensioning the width of sections A-F of blank 11, a small space remains between adjacent glass bottles.

The manner in which printed insert 61 is supported within the overall package is also best shown in FIGS. 2 and 3. It will be observed that two portions of the insert are exposed on opposite sides of the finished package in the regions above the retainer tabs 53 and 54 and this feature may be used first to check the presence of an insert and also to display information normally printed on labels; see

for example the diagrammatic representation on the insert in section E, FIG. 2.

From FIG. 3 it may also be seen that the tension of the paperboard blank drawn over the top and the two side walls furnishes a means for forcibly maintaining tabs 53 and 54 against printed inserts 61 to insure retention thereof notwithstanding normal shock and vibration, as earlier mentioned. If desired, the face of panel 23, toward the viewer in FIG. 1, may be coated with some means to increase friction such as ruber cement or other like material.

Finally, the completed package arrangement may be handled as a six container unit, or by virtue of the perforate tear lines AB, BC . . . EF, the package may be divided into individual units or into any desired subcombination of units. For illustration, container 18 as secured within section A of blank 11 has in FIG. 2 been shown as partially separated from the remainder of the pack. This is accomplished by employing a sufficient tearing force, and obviously each one of the containers in its individual wrap may be separated at will. The partially separated container 18 in section A shown in FIG. 2 further illustrates a prime advantage of the present invention in that a printed insert 61 separates and remains with the respective individual section.

FIG. 4 illustrates a fragmentary portion of a paperboard blank which in most respects is identical to paperboard blank 11 disclosed in FIG. 1 and shown in use in FIGS. 2 and 3, and for this reason corresponding reference numerals have been used wherever applicable. More specifically, the blank 11 in FIG. 4 has been modified to the extent that three insert holding tab arrangements have been provided in each of the transverse sections A, B, etc.; such arrangements being in panels 22, 23 and 24. Accordingly, a printed insert 61 such as shown in FIG. 1 is retained in three areas in the blank shown in FIG. 4. Further, each tab arrangement has been modified, and as shown, includes a precut pair of oppositely hinged tabs 71 and 72 meeting at cut 73. As shown in panel 24, section A, the tabs 71 and 72 may be lifted to receive the printed insert. In inserting printed material 61, the document is placed under all three tabs in each transverse section, and this provides a firmer grip on the printed matter and also prevents accidental slippage of the insert, as apparent. Additionally, a "window" is now available in the uppermost section 23 of the package when assembled as in FIG. 2. Otherwise the structure and function of a blank fabricated as in FIG. 4 is the same as the blank of FIG. 1.

In summary, the present invention offers a convenient means for packaging a multiplicity of containers with printed matter in intimate contact with each of the containers so wrapped. The printed matter "follows" the respective container when separated from the complete package and the printed matter may also be easily withdrawn for study by the user. The printed insert may present all of the data required by law to be associated with container or drugs and other pharmaceutical preparations; on the other hand, the printed inserts may be coupons, premium stamps or any text material desired to be conveyed from the manufacturer to the user.

It should be remarked that the exact size of the package shown is, of course, dependent upon the size and shape of the individual containers and the total number of units in each multi-pack is likewise dependent upon the needs or customs of the market for the product.

In view of the foregoing, it will be clear that many modifications of this invention may now be made by those skilled in the art without departing from the underlying concept thereof. The scope of the invention should thus be construed as defined by the appended claims.

What is claimed is:

1. A four-sided open end paperboard package securely overwrapping a plurality of adjacent containers and retaining a like plurality of printed inserts each in close relationship with a respective container comprising integral paperboard top, sidewall and bottom portion panels enclos-

ing said containers, and integral hinged tabs formed in selected ones of said panels and holding each of said printed inserts along the inside surface of said package in at least partial contact with a respective container.

2. A paperboard blank adapted to be folded as an overwrap for a container to provide a four-sided open-ended package, the blank comprising, a generally rectangular paperboard sheet divided by transverse fold lines into contiguous panels foldable about said container, said blank having an integral retainer tab formed in at least two of said panels, and a flat insert of foldable material, said insert being disposed substantially flat on said sheet and under the respective tabs and extending across one of said fold lines.

3. A paperboard blank adapted to be folded as an overwrap for a container to provide a four-sided open-ended package, the blank comprising, a generally rectangular paperboard sheet divided by transverse fold lines into contiguous panels foldable about said container, said blank having an integral retainer tab formed in each of at least two of said panels arranged to hold a foldable insert flat on said blank and under said tabs in a position in which the insert extends across at least one of said fold lines.

4. A paperboard blank according to claim 3 wherein the two tabs are in two panels of the blank, which two panels are separated by a third panel.

5. A paperboard blank according to claim 3 wherein said fold lines define five contiguous panels, the center panel of which forms the top of the package, the two panels immediately adjacent said center panel form the side walls of said package and the two outermost panels are adapted to overlap and form the bottom of the package, and wherein the two integral tabs are disposed, respectively, within the panels immediately adjacent said center panel.

6. A paperboard blank according to claim 3 wherein said integral tabs are each formed by a generally U-shaped cut in said blank, said tabs being hinged about a hinge line substantially at right angles to the said transverse fold lines.

7. The method of multiple packaging of a plurality of containers and a plurality of printed inserts on foldable material, one insert for each container, in an open-ended sleeve subdivided by parallel spaced lines of weakness into parallel sections, the method comprising,

assembling with the flat blank which is to become the sleeve a plurality of flat inserts, one for each section, by placing said inserts on the inside surface of said blank and under certain tabs formed integrally in said blank;

combining with said blank a plurality of containers, one for each section, said containers being disposed in a row;

jointly folding said blank and said inserts about said row of containers along substantially coinciding fold lines of said blank and said inserts;

and securing together the ends of said blank at points of the blank beyond the ends of said inserts.

8. The method of forming a package comprising a container, a printed insert on foldable material, and an open-ended sleeve-type wrapper of foldable paperboard for both said container and said insert, the method comprising,

forming in the flat wrapper blank a pair of integral internally disposed retaining tabs on opposite sides of one of the fold lines about which the blank is to be folded to form a sleeve;

placing on the wrapper blank, but underneath said pair of tabs, an insert of foldable material;

combining with said blank and said insert a container so as to place said container in contact with said blank and said insert;

folding said blank about said container along a plurality of fold lines, at least one of said fold lines extending across said insert between said pair of tabs;

7

and finally securing one end of the wrapper blank to another portion of the wrapper blank to maintain the blank in a position in which it extends about the container.

9. A package comprising a container, a printed insert of foldable sheet material and an open-ended sleeve-type wrapper of foldable sheet material in which the wrapper forms a band-type enclosure about said container, the insert being placed between the inside surface of the wrapper and the outside of the container with tab portions integrally formed in the wrapper extending into the space between the container and the wrapper, said tab portions being disposed on opposite sides of a folding crease of the wrapper, said insert being creased at a line substantially coinciding with the said folding crease of the wrapper.

8

10. A package according to claim 9 in which the insert overlies the top of the container and is folded twice to extend down both sides of the container inside said wrapper thereby forming a liner along the sides of the container.

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THERON E. CONDON, *Primary Examiner*.

WILLIAM T. DIXSON, JR., *Examiner*.