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(54) **BLISTER CARD WITH PEELABLE STRIP FOR A CHILD-RESISTANT PACKAGE**

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(57) **ABSTRACT**

A card for packaging tablets includes a tablet-carrying layer having a plurality of close-ended hollow compartments for housing tablets with each of the compartments having an open end located on an underside of the tablet-carrying layer and a sealing layer secured to the underside of the tablet-carrying layer for sealing the open ends of the compartments. The sealing layer has perforations formed therein defining a plurality of separate strips. The perforations enable each of the strips to be separately peeled away from the tablet-carrying layer without peeling away a remainder of the sealing layer. Each of the strips extends directly under a plurality of the compartments such that, when one of the strips is peeled away from the tablet-carrying layer, the contents of multiple compartments can be dispensed at a given time.

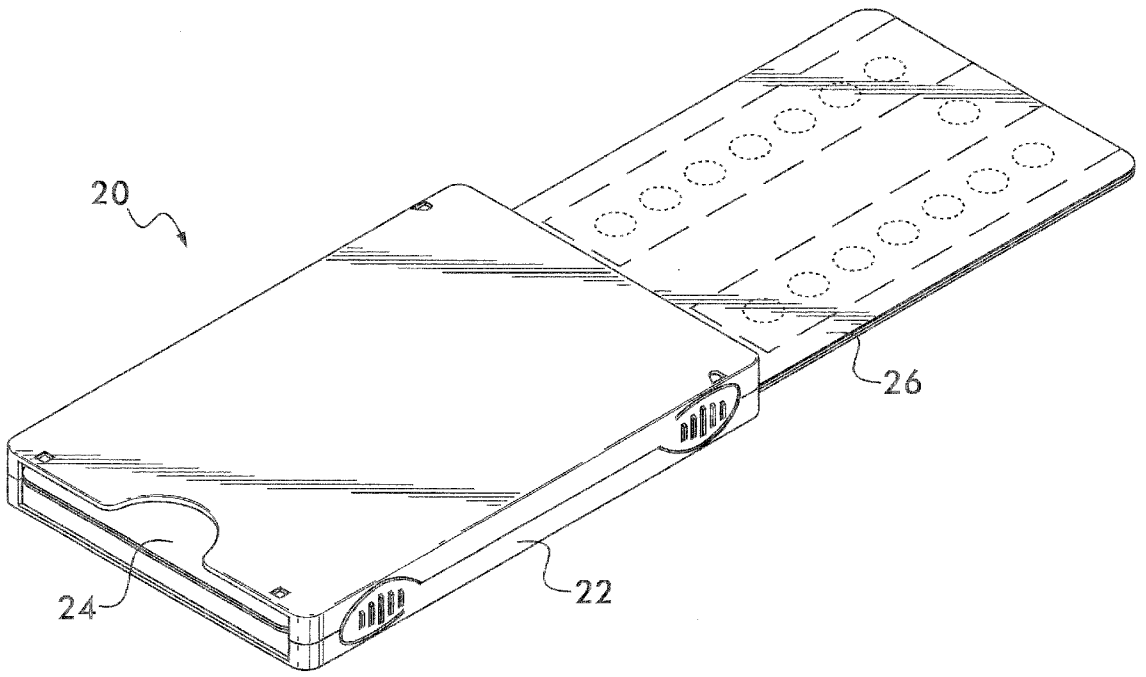
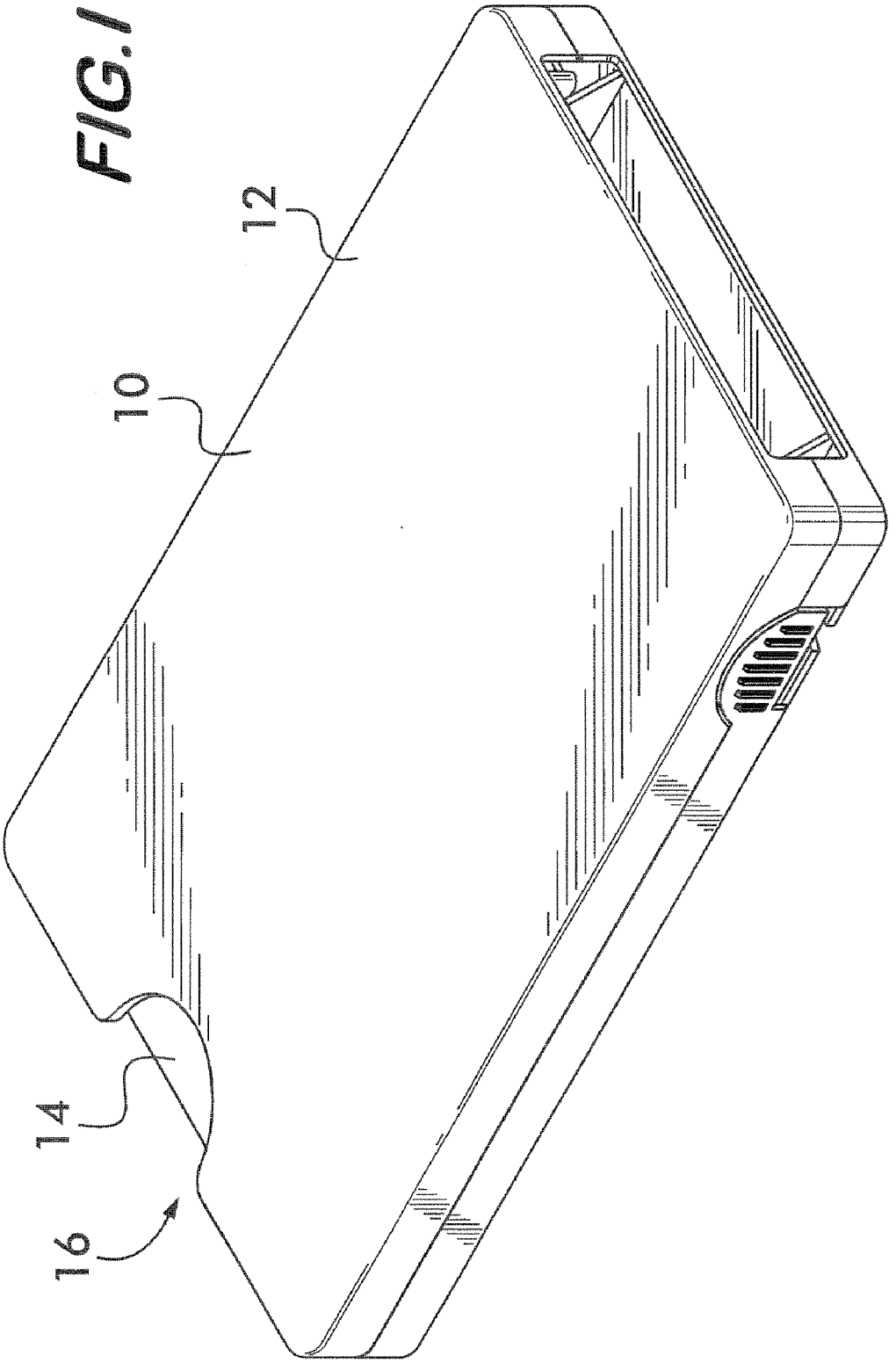


FIG. 1



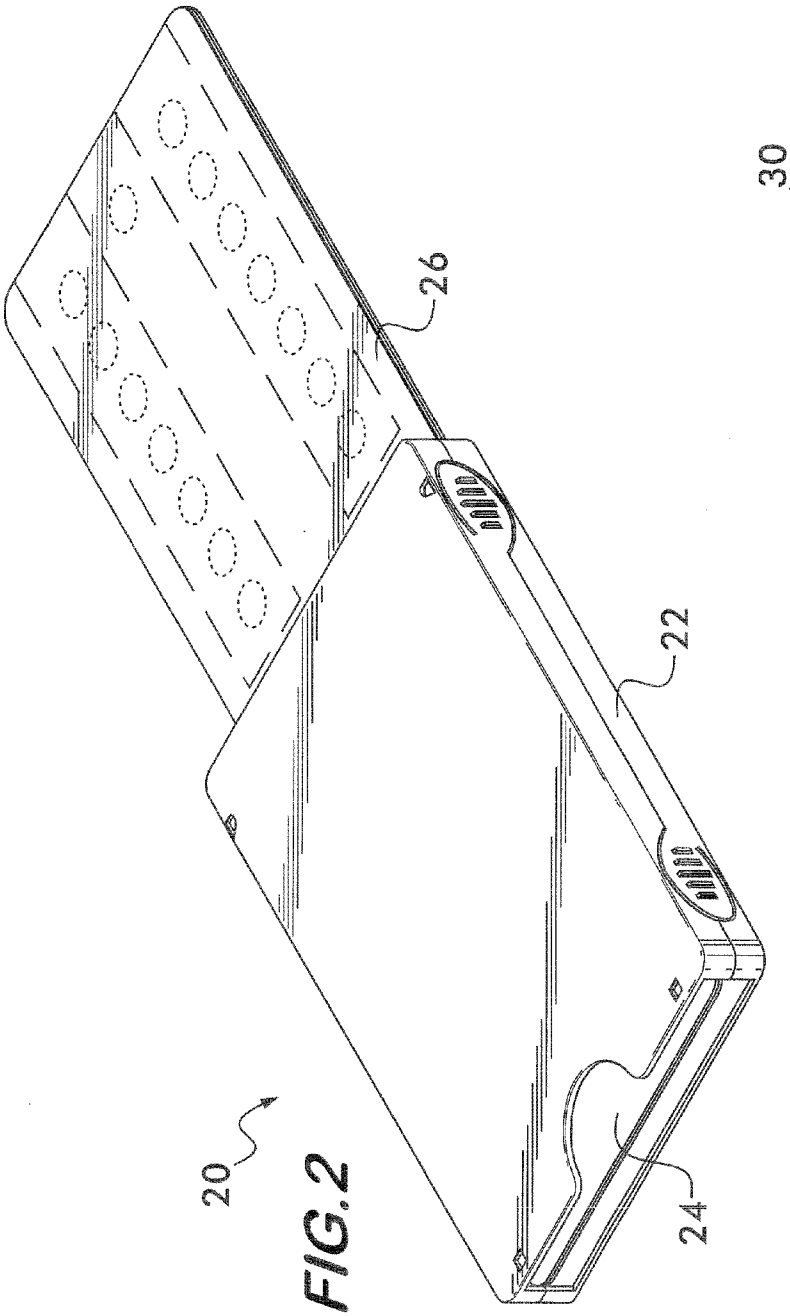


FIG. 2

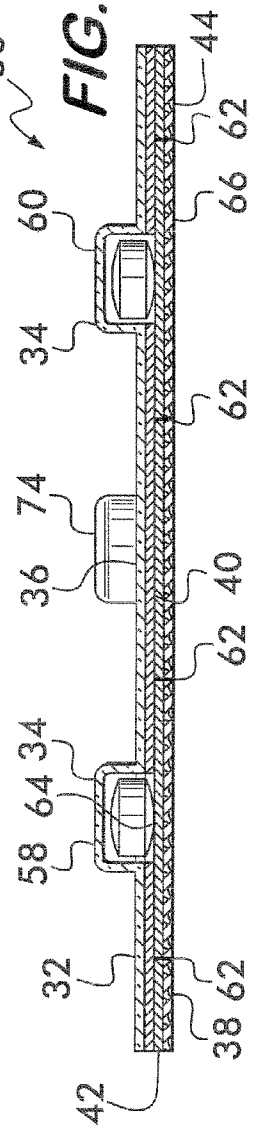
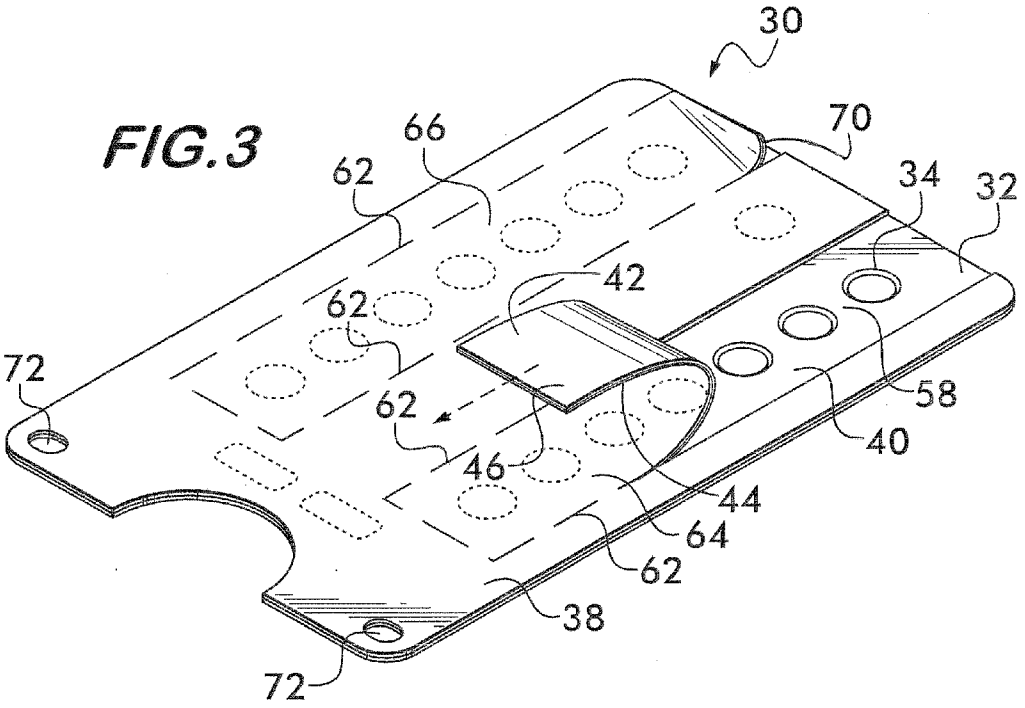


FIG. 5

FIG.3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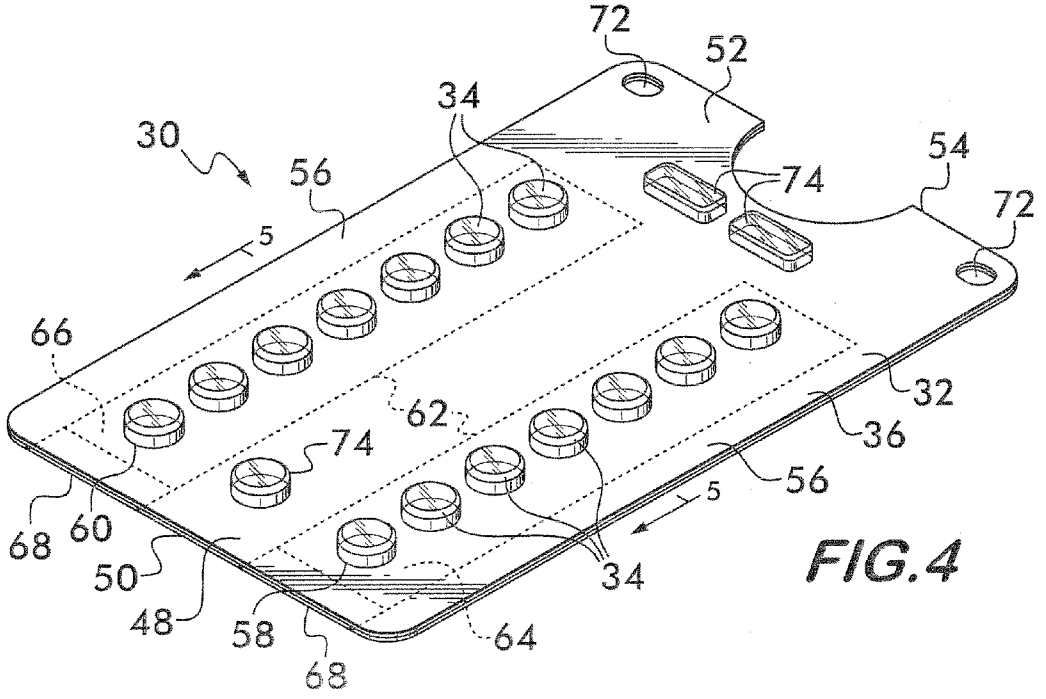
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FIG.4

BLISTER CARD WITH PEELABLE STRIP FOR A CHILD-RESISTANT PACKAGE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit under 35 USC §119(e) of U.S. Provisional Patent Application No. 61/305,840, filed Feb. 18, 2010.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to a blister card or like dispensing tray in which a plurality of relatively-small separate items, such as tablets, doses of medicine, or the like can be packaged, and more particularly, the present invention relates to a blister card storable in a hollow protective outer sleeve or case that provides child-resistant, senior-friendly dispensing properties.

[0003] U.S. Pat. Nos. 7,581,642 B2 issued to Knutson et al., 7,617,935 B2 issued to Reilley et al. and 7,806,270 B2 issued to Seibert et al. and U.S. Patent Application Publication No. 2010/0300923 A1 of Sack et al. are assigned to Anderson Packaging, Inc., the assignee of the present application, and disclose examples of packages including a blister card housed within a molded plastic sleeve or case providing child-resistant, senior-friendly dispensing properties.

[0004] Although the packages disclosed by the above referenced patents and published and unpublished applications are suitable for their intended purposes, there is a need for alternate designs of such packages and the blister cards contained by such packages. Typically, it is desirable that such packages are difficult for a young child to open (i.e. receive a so-called "F=1" child resistant rating), yet are readily opened and closed by an intended end-user, such as a senior citizen. Preferably, the blister card is able to be slid between a retracted position in which the items are protected and housed within the package and a dispensing position in which the blister card at least partially extends in an exposed condition from the package.

SUMMARY OF THE INVENTION

[0005] The present invention provides a card for packaging tablets. The card includes a tablet-carrying layer having a plurality of close-ended hollow compartments for housing tablets with each of the compartments having an open end located on an underside of the tablet-carrying layer and a sealing layer secured to the underside of the tablet-carrying layer for sealing the open ends of the compartments. The sealing layer has perforations formed therein defining a plurality of separate strips. The perforations enable each of the strips to be separately peeled away from the tablet-carrying layer without peeling away a remainder of the sealing layer. Each of the strips extends directly under a plurality of the compartments such that, when one of the strips is peeled away from the tablet-carrying layer, the contents of multiple compartments can be dispensed at a given time.

[0006] According to a further aspect of the present invention, a package having child-resistant, senior-friendly dispensing properties for storing and dispensing tablets is provided. The package includes a blister card having a plurality of blister compartments for holding tablets and a hollow sleeve having an opposed pair of wall panels, an opposed pair of side edges and a dispensing end. The sleeve provides a protective housing for the blister card when the blister card is in a storage position within the sleeve, and the blister card is slidable in an end-to-end direction relative to the sleeve between the storage position and a dispensing position in which the blister card extends at least partially outside the sleeve to expose the blister compartments. The blister card comprises a sheet of plastic material having a plurality of upstanding hollow blister compartments formed therein each having an open end located on an underside of the sheet and a sealing layer bonded to the underside of the sheet for sealing the open ends of the blister compartments. The sealing layer includes a layer of foil directly bonded to the underside of the sheet and a second exterior layer. The sealing layer has perforations formed therein defining a plurality of strips peelable away from the sheet without peeling away a remainder of the sealing layer. Each of the strips extend directly under a plurality of the blister compartments such that, when one of the strips is peeled away from the sheet, contents of multiple blister compartments can be dispensed at the same time.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The present invention should become apparent from the following description when taken in conjunction with the accompanying drawings, in which:

[0008] FIG. **1** is perspective view of a first package including a sleeve with a single blister card according to the present invention retained in a storage position;

[0009] FIG. **2** is perspective view of a second package including a sleeve with a pair of separate blister cards according to the present invention with one blister card retained in a storage position and the other in a dispensing position;

[0010] FIG. **3** is a perspective view of the underside of a blister card according to the present invention with one strip shown partially peeled away from the blister card;

[0011] FIG. **4** is a plan view of an upper face of the blister card of FIG. **3**; and

[0012] FIG. **5** is a cross-sectional view of the blister card of FIG. **4** taken along line **5-5**.

DETAILED DESCRIPTION OF THE INVENTION

[0013] The present invention is directed to the structure of a blister card having one or more peelable strips enabling dispensing of pills, tablets or the like from the blister card. In addition, the present invention is also directed to the structure of a blister card that can be used as part of a package comprising one or more blister cards contained within a protective hollow sleeve or case.

[0014] Examples of the above referenced package are disclosed in co-pending U.S. patent application Ser. No. 12/577,228 filed on Oct. 12, 2009, the disclosure of which is hereby incorporated herein by reference. Other examples are disclosed by U.S. Pat. Nos. 7,581,642 B2 issued to Knutson et al. and 7,617,935 B2 issued to Reilley et al. and 7,806,270 B2 issued to Seibert et al. Various embodiments are disclosed herein and various alterations can be made to the embodiments within the scope of the present invention. The blister card of the present invention can be used with any of the above referenced packages, with other packages, or by itself without a protective sleeve.

[0015] Solely for purposes of example, a relatively compact package **10** is illustrated in FIG. **1**. Package **10** includes a hollow protective sleeve or case **12** housing a single blister card **14** which is capable of being slid into and out of the sleeve **12** between storage and dispensing positions relative to

the sleeve or case **12**. The purpose of the sleeve **12** is to form a protective compact case for safely housing the blister card **14**. Preferably, although not a requirement, the sleeve or case **12** can be provided with child-resistant features that prevent a young child from accessing the tablets or pills contained by the package **10**.

[0016] The blister card **14** is slid relative to the sleeve **12** in an end-to-end direction through a dispensing end **16** of the sleeve **12** to a dispensing position and can be slid into the sleeve **12** to a storage position. In the storage position, the blister card **14** is held in a substantially stationary position relative to the sleeve **12** and very little movement of the blister card **14** relative to the compact sleeve **12** is permitted.

[0017] As an alternative, a relatively compact package **20** is illustrated in FIG. **2** that includes a hollow protective sleeve or case **22** housing two separate blister cards **24** and **26** that can each be slid out of one or opposite ends of the package. In FIG. **2**, the blister card **24** is shown in a storage position and the blister card **26** is shown in a dispensing position.

[0018] The packages **10** and **20** can include locking mechanisms such that the blister cards automatically become locked in the storage position when fully inserted within the sleeves. In this locked condition, the user is required to perform multiple simultaneous actions to free the blister card from the storage position to enable the blister card to slide relative to the sleeve to the dispensing position. For example, a pair of buttons or the like on opposite side edges of the packages may need to be simultaneously depressed while the front edge of the blister card is pulled out of the sleeve. The above referenced multiple simultaneous actions are preferably of a type not readily accomplished by a young child but that can readily be performed by intended users, such as adults.

[0019] Accordingly, the blister card can be slid into the sleeve to the storage position from the dispensing position by being pushed into the sleeve and automatically becomes locked in the storage position and thereafter cannot be slid to the dispensing position until the above referenced multiple simultaneous actions are again performed. The above described operations permit the packages to have child-resistant properties sufficient for a so-called F=1 child resistant rating, yet still are able to be readily opened by an intended user during the entire life of the packages. As one example, the packages can be adapted for use as a unit dose package.

[0020] The blister card according to the present invention can be used in one of the above referenced packages. Alternatively, the blister card can be used with other packages or by itself without a protective outer sleeve.

[0021] One contemplated embodiment of the blister card according to the present invention is illustrated in FIGS. **3-5**. The blister card **30** can be constructed from multiple layers which are laminated or otherwise secured or bonded together. For example, the blister card **30** can include a tablet-carrying layer **32** having a plurality of separate, spaced-apart, upstanding blister compartments **34**. See FIG. **4** which shows an upper face **36** of the blister card **30**. In addition, one or more sealing layers **38** can be applied, bonded and/or secured to an underside **40** of the tablet-carrying layer **32** to seal tablets or the like within the blister compartments **34**.

[0022] By way of example, the tablet-carrying layer **32** can be formed from a thin sheet of plastic or the like in which a plurality of separately-accessible, spaced-apart, upstanding blister compartments **34** are formed such as via a thermoforming or molding operation. A pill, tablet or the like can be loaded into the compartments **34**. Preferably, the tablet-carrying layer **32** and/or blister compartments **34** are transparent so that the presence of a tablet within a compartment **34** can be determined via visual inspection of the blister card **30**. Thus, the tablet-carrying layer **32** can be a thermoform-able sheet of plastic, such as PVC, PVDC, or the like.

[0023] The sealing layer **38** is applied, secured, or bonded to the underside **40** of the tablet-carrying layer **32** and functions to capture the tablets within the blister compartments **34**. In the illustrated embodiment, the sealing layer **38** is constructed as a layer of foil **42** laminated to a layer of paper or cardboard **44**. The foil **42** confronts the tablet-carrying layer **32** and tablets; while, the paper or cardboard layer **44** forms an exterior underside of the blister card **30**. When the sealing layer **38** is separated from the tablet-carrying layer **32**, such as being peeled away from the layer **32**, the exposed tablet or tablets are free to be dispensed from their respective blister compartments **34**. An example of this is illustrated in FIG. **3** which shows a section **46** of the sealing layer **38**, including the foil **42** and paper **44**, partially peeled away from the tablet-carrying layer **32**. Thus, three or four blister compartments **34** are exposed in the peeled condition of FIG. **3**. As an alternative, the paper layer **44** can first be peeled away by itself, and then the tablets can be forced or pushed through the single frangible foil layer **42** which can remain bonded to the tablet-carrying layer **32** behind the blister compartments **34**.

[0024] The illustrated blister card **30** can be generally thin and rectangular and can be of a predetermined length and width. The plurality of separate blister compartments **34** can project a predetermined height from the upper face **36** of the blister card **30**. The blister card **30** can include a front margin **48** adjacent a leading front edge **50** of the blister card **30**, a rear margin **52** adjacent a distal end **54** of the blister card **30**, and a pair of side margins **56** extending lengthwise along the opposite sides of the blister card **30**. In the illustrated embodiment, no blister compartments are located in any of the front, rear and side margins, **48**, **52** and **56**.

[0025] As best illustrated in FIG. **4**, the blister compartments **34** can be arranged in lines forming one or more rows, **58** and **60**, of blister compartments **34**. Within each row, **58** and **60**, the blister compartments **34** can be aligned in a single-file manner (as illustrated) or can be slightly staggered relatively to each other. The sealing layer **38** can include a series of perforations **62** that define the boundaries of one or more peelable strips, **64** and **66**, which in turn defines the extent of the rows, **58** and **60**. Of course, any number of rows and any number of strips can be provided. As illustrated in FIG. **3**, as the strip **64** is peeled and removed along the length of its respective row **58**, additional blister compartments **34** are progressively exposed. In FIG. **3**, about three blister compartments **34** are shown exposed.

[0026] A benefit of the above arrangement is that any number of tablets can be dispensed from the blister card **30** based on the extent to which a strip, **64** or **66**, is peeled from the tablet-carrying layer **32**. For example, if a patient is to take one tablet a day, the patient can readily dispense seven tablets at once by removing one of the strips, **64** or **66**, and by simultaneously dispensing all seven tablets from one of the rows, **64** or **66**. This is desirable since many patients use separately-purchased, re-useable, weekly pill dispensers (not shown). Accordingly, a week's worth of tablets can be readily dispensed from the blister card **30** at one time with minimal effort and then the dispensed tablets can be transferred into the patient's weekly pill dispenser. Of course, this provides only one example, and other number of tablets can be dis-

pensed for any number of reasons. In the example, each row has seven tablets, one for each day of the week; however, any number of tablets can be contained in each row.

[0027] Accordingly, the strips, **64** and **66**, can be peeled from the underside of the blister card **30** to expose any desired number of blister compartments **34** in a particular row. The perforations **62** guide the peeling/tearing operation along the length of the rows, **64** and **66**. In addition, a relief area **68** is formed at the leading edge **70** of each strip, **64** and **66**, to enable easy gripping of the leading edge **70** when initial peeling of a strip is desired. Unlike the remainder of the sealing layer **38**, the leading edges **70** of the strips, **64** and **66**, are not bonded or sealed to the tablet-carrying layer **32** in the relief areas **68**. Thus, the patient can readily slip their finger or the like between the leading edge **70** and the layer **32** to initiate peeling of a strip.

[0028] In addition to the above features, the blister card **30** can include other optional features. For example, the illustrated card **30** includes a pair of latch-catchers or apertures **72** which cooperates with latching mechanisms in a protective sleeve so that the blister card can be locked within a storage position within the sleeve. Also, additional blister compartments **74**, which are not for the purpose of containing tablets, can be formed in the layer **32**. The compartments **74** can be provided to space the blister card **30** from the walls of the sleeve and/or to engage retaining structures in the sleeve to prevent withdraw of the card through an end of the sleeve or to prevent complete withdraw of the card from the sleeve when the blister card is in a dispensing position.

[0029] The above referenced blister card **30** and packages **10** and **20** are preferably produced utilizing automated, high-speed equipment enabling commercial-sized quantities of the blister cards and packages to be formed, assembled, and loaded with tablets or the like in a cost efficient manner within a relatively short period of time. In some contemplated embodiments, the packages of the present invention can meet and surpass the standards (F=1) required for a child proof package yet are easy to open and close by adults including senior citizens. Further, the blister card and packages can be made of materials that can be readily recycled thereby providing a blister card and packages that are environmentally-friendly and inexpensive to manufacture. Still further, at least some parts of the blister card and sleeves are capable of being made from recycled materials.

[0030] While numerous blister cards and packages have been described in detail, various modifications, alterations, and changes may be made without departing from the spirit and scope of the present invention.

We claim:

1. A card for packaging tablets, comprising:

a tablet-carrying layer having a plurality of close-ended hollow compartments for housing tablets, each of said compartments having an open end located on an underside of said tablet-carrying layer; and

a sealing layer secured to said underside of said tablet-carrying layer for sealing said open ends of said compartments;

said sealing layer having perforations formed therein defining a plurality of strips, said perforations enabling each of said strips to be separately peeled away from said tablet-carrying layer without peeling away a remainder of said sealing layer, each of said strips extending directly under a plurality of said compartments such that when one of said strips is peeled away from said tablet-carrying layer, contents of multiple compartments can be dispensed at the same time.

2. A card according to claim **1**, wherein said tablet carrying layer has at least one free edge, wherein at least one of said strips extends to said free edge, and wherein a relief area is formed between said strip and said tablet-carrying layer at said free edge such that said strip is not bonded to said tablet-carrying layer adjacent said free edge.

3. A card according to claim **1**, wherein said sealing layer includes a layer of foil bonded to said underside of said tablet-carrying layer and a second layer forming an external surface of said card.

4. A card according to claim **3**, wherein said second layer of said card is made of paper, paperboard or cardboard.

5. A card according to claim **1**, wherein said tablet-carrying layer is a sheet of plastic material with said compartments being formed as a plurality of upstanding blister compartments.

6. A card according to claim **5**, wherein said sheet of plastic material is made of PVC or PVDC and is transparent.

7. A card according to claim **1**, wherein said card is rectangular, wherein said compartments are aligned in a plurality of rows extending lengthwise on said card, and each of said strips extends underneath one of said rows of compartments.

8. A blister card for packaging tablets, comprising:

a sheet of plastic material having a plurality of upstanding hollow blister compartments formed therein, each of said blister compartments having an open end located on an underside of said sheet; and

a sealing layer bonded to said underside of said sheet for sealing said open ends of said blister compartments, said sealing layer including a layer of foil directly bonded to said underside of said sheet and a paper layer forming an external surface of said blister card;

said sealing layer having perforations formed therein defining a plurality of strips peelable away from said sheet without peeling away a remainder of said sealing layer, each of said strips extending directly under a plurality of said blister compartments such that when one of said strips is peeled away from said sheet, contents of multiple blister compartments can be dispensed at the same time.

9. A blister card according to claim **8**, wherein said sheet has a leading edge, wherein each of said strips extends to said leading edge, and wherein a relief area is formed between each of said strips and said sheet at said leading edge such that each of said strips is not bonded to said sheet adjacent said leading edge.

10. A blister card according to claim **9**, wherein said sheet is elongate, wherein said blister compartments are aligned in a plurality of rows extending lengthwise on said elongate sheet, and wherein each of said strips extends underneath one of said rows of blister compartments.

11. A blister card according to claim **10**, wherein said blister card has at least one latch catcher adjacent an edge of said sheet opposite from said leading edge.

12. A blister card according to claim **11**, wherein said latch catcher is an aperture extending through said blister card.

13. A package having child-resistant, senior-friendly dispensing properties for storing and dispensing tablets, comprising:

a blister card having a plurality of blister compartments for holding tablets; and

a hollow sleeve having an opposed pair of wall panels, an opposed pair of side edges and a dispensing end;

said sleeve providing a protective housing for said blister card when said blister card is in a storage position within said sleeve, and said blister card being slidable in an end-to-end direction relative to said sleeve between said storage position and a dispensing position in which said blister card extends at least partially outside said sleeve to expose said blister compartments;

said blister card comprising a sheet of plastic material having a plurality of upstanding hollow blister compartments formed therein each having an open end located on an underside of said sheet and a sealing layer bonded to said underside of said sheet for sealing said open ends of said blister compartments, said sealing layer including a layer of foil directly bonded to said underside of said sheet and a second layer; and

said sealing layer having perforations formed therein defining a plurality of strips peelable away from said sheet without peeling away a remainder of said sealing layer, each of said strips extending directly under a plurality of said blister compartments such that, when one of said strips is peeled away from said sheet, contents of multiple blister compartments can be dispensed at the same time.

14. A package according to claim **13**, wherein said blister card includes at least one latch-catcher for cooperatively engaging and catching latches of said sleeve when said blister card is in said storage position to automatically lock said blister card in said storage position within said sleeve when said blister card is slid to said storage position.

15. A package according to claim **14**, wherein said at least one latch catcher is an aperture.

16. A package according to claim **15**, wherein said sheet has a leading edge, wherein each of said strips extends to said leading edge, and wherein a relief area is formed between each of said strips and said sheet at said leading edge such that each of said strips is not bonded to said sheet adjacent said leading edge.

17. A package according to claim **16**, wherein said sheet is elongate, wherein said blister compartments are aligned in a plurality of rows extending lengthwise on said elongate sheet, and wherein each of said strips extends underneath one of said rows of blister compartments.

18. A package according to claim **17**, wherein said second layer of said sealing layer is made of paper, paperboard or cardboard.

19. A package according to claim **18**, wherein said sheet of plastic material is made of PVC or PVDC and is transparent.

* * * * *