



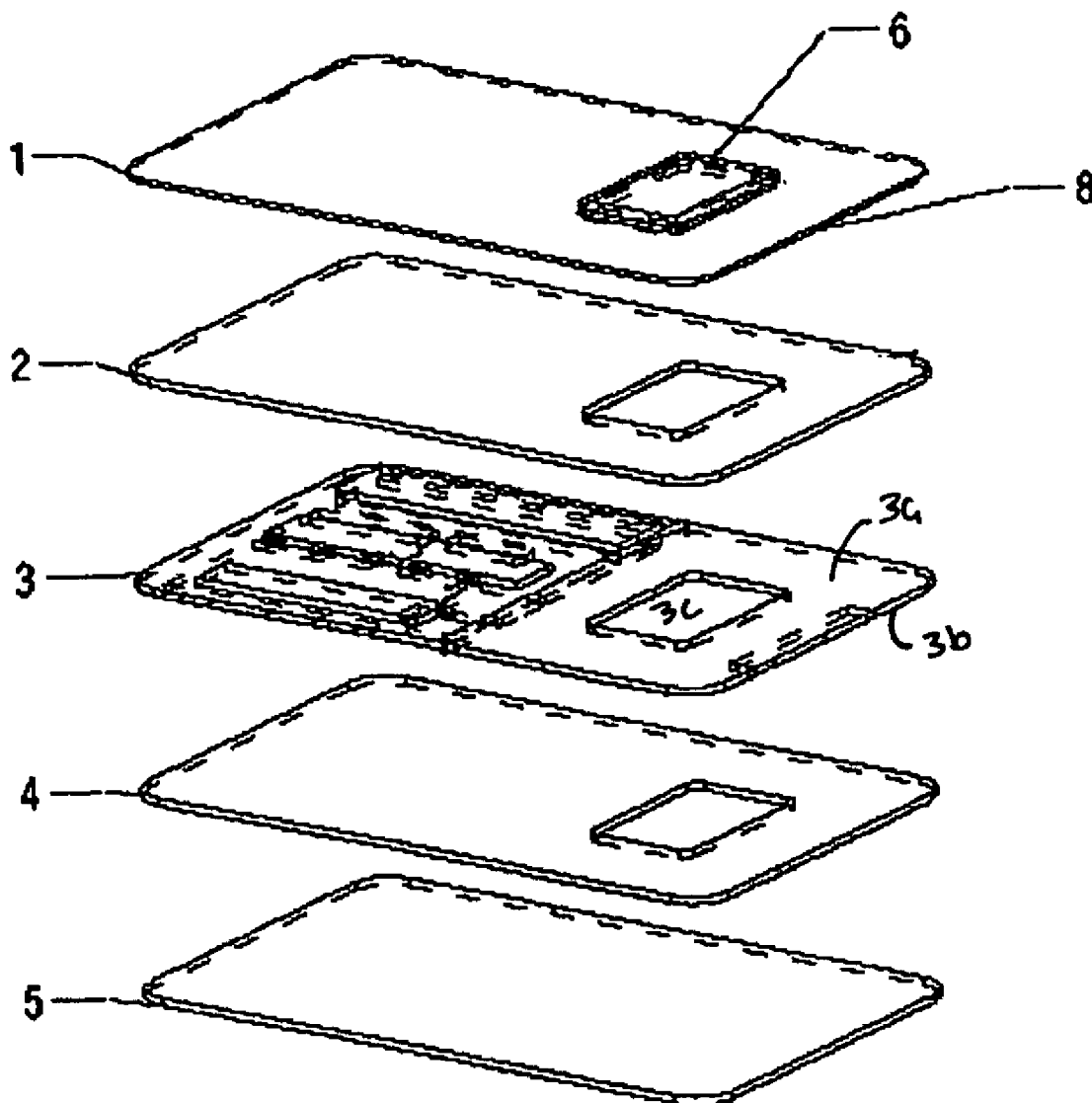
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(19) **United States**(12) **Patent Application Publication**  
**Bozkurt**(10) **Pub. No.: US 2006/0138009 A1**(43) **Pub. Date: Jun. 29, 2006**(54) **CARD BASED SECURE PRODUCT  
PACKAGING SYSTEM****Publication Classification**(51) **Int. Cl.**  
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ITHALAT IHRACAT A.S.**(21) **Appl. No.: 11/020,203**(22) **Filed: Dec. 27, 2004**(57) **ABSTRACT**

A multi-layered, secure packaging assembly that retains an article therein. The assembly includes a card having front and back surfaces coated with an adhesive. A first cover plate is adhered to the front surface of the card while a second cover plate is adhered to the back surface of the card. The first cover plate includes a receptacle for retaining the article therein. The width and length of the first cover plate is equal to the width and length of the card and second cover plate. The card splits into two nearly equal pieces when the first cover plate is separated or pulled away from the second cover plate to provide a consumer with access to the article.



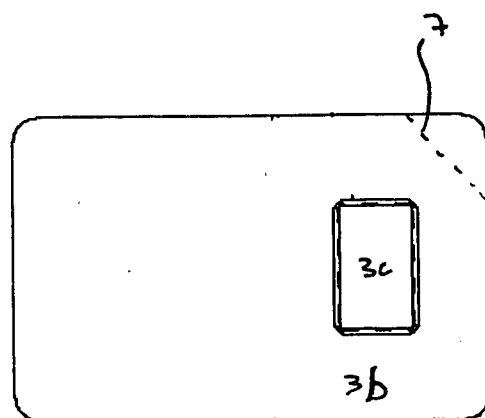
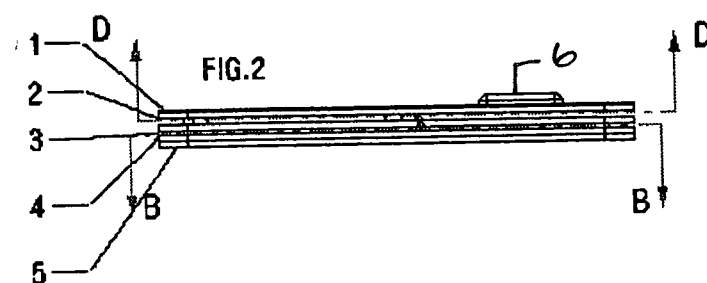
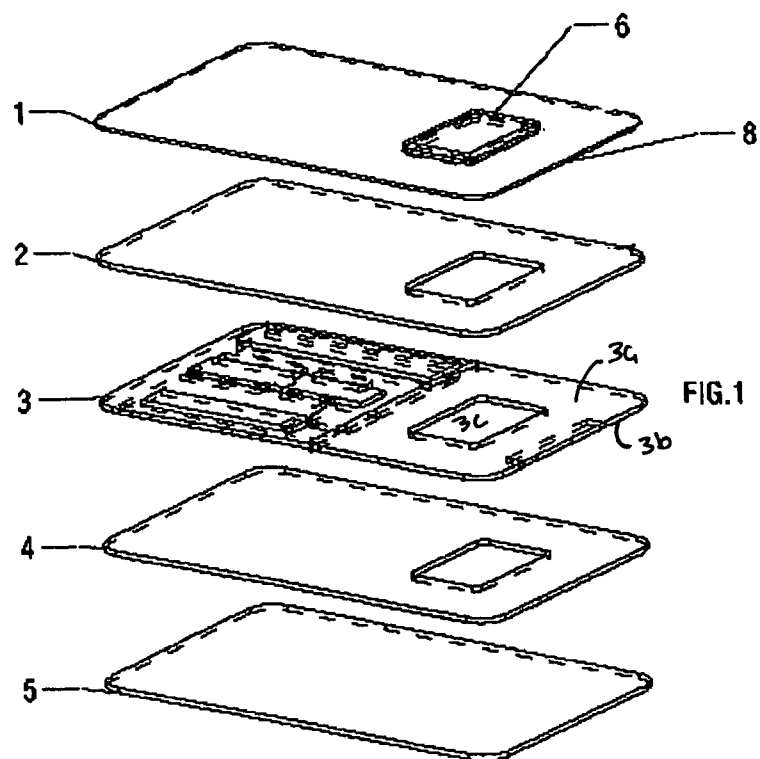


FIG. 3

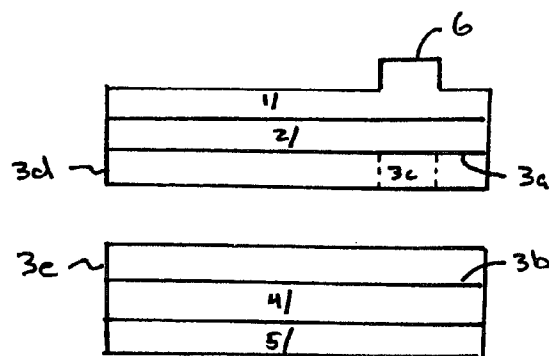


Fig. 4

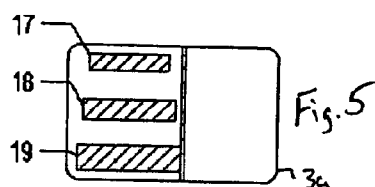


Fig. 5

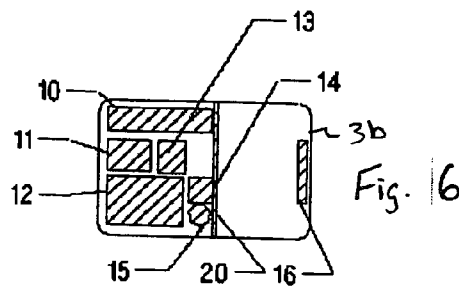


Fig. 6

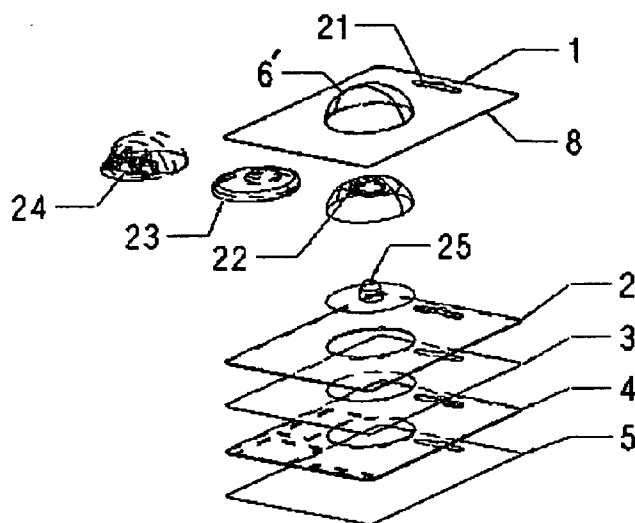


Fig. 7

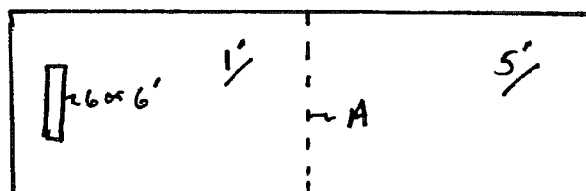


Fig. 8

## CARD BASED SECURE PRODUCT PACKAGING SYSTEM

### BACKGROUND OF THE INVENTION

#### [0001] 1. Field of the Invention

[0002] This invention relates to a multilayered, card based secure product packaging system having an intermediate layer with front and back sides coated with an adhesive and a polyvinyl chloride-based plate attached to the front and back sides of the intermediate layer.

#### [0003] 2. Discussion of Related Art

[0004] Various secure packaging systems exist wherein an article or articles within the packaging may be displayed for sale without the packaging being compromised. The conventional secure packaging systems are intended to prevent unauthorized access to the article contained in the packaging while permitting the packaging to be easily opened by adults without undue difficulty. Such conventional security packaging systems often provide the article against a backing board with a clear plastic cover provided over the article and backing board so that the article is clearly visible and presented to consumers in that manner. Unfortunately, the plastic of such packages leaves sharp edges when the plastic is torn by the consumer in an attempt to access the article provided therein. Obviously, sharp plastic edges pose a safety hazard to the consumer and are extremely dangerous to children.

[0005] For example, U.S. Patent Application No. 2002/0014431 to Logan et al. discloses a package having a semi-rigid transparent plastic blister 4 adhered to a first side of a support card 2 and a transparent plastic film 8 adhered to a second side of the card 2. The card 2 has a window 6 formed therein through which product can be removed by peeling away the plastic film 8 in the vicinity of the window 6, during which a thin surface layer of the card 2 tears away from the remainder of the card thickness. While a thin surface of the card 2 adheres to the plastic film 8 when the film 8 is torn away from the card 2, Logan et al. do not teach the concept of the blister 4 and/or the plastic film 8 "splitting" the card 2 into nearly equal parts when the package is opened, i.e., when the plastic film 8 is torn away from the card.

[0006] In another example, U.S. Pat. No. 4,915,231 to Perbet et al. disclose a package 2 having a cardboard plate 4 along with an object 3 sealed between an upper sheet 7 and a lower covering sheet 8, which is fastened to the upper sheet 7 by a peripheral sealing 9. An upper face of the plate 4 is coated with a synthetic material 6 onto which the upper sheet 7 is essentially shrink wrapped. The lower covering sheet 8 is then fastened to the upper sheet 7 by the peripheral sealing 9. However, Perbet et al. do not appear to teach that the upper and lower sheets 7 and 8 are able to be peeled away from the cardboard plate 4 such that a part of the plate 4 adheres to the upper sheet 7 and a nearly equal part of the remaining portion of the plate 4 adheres to the lower sheet 8.

[0007] In yet another example, U.S. Pat. No. 5,307,934 to Hagner discloses a package having an article 40 enclosed between an upper plastic foil 10 and a bottom plastic foil 20. The bottom plastic foil 20 includes a plurality of perforations 21 and a sheet 30 that is positioned between the upper

and bottom plastic foils 10 and 20, respectively. However, the foils 10 and 20 are not adhered to the sheet 30. Accordingly, when the package is opened, the sheet 30 simply falls out.

[0008] Furthermore, U.S. Pat. No. 5,429,241 to Althaus discloses a package 1 having two plastic layers 6 and 6' that are sealed together at a connecting edge 9 with a cardboard insert 7 arranged therebetween. However, the plastic layers 6 and 6' do not appear to be adhered to the cardboard insert 7 such that when the package 1 is opened, the front portion of the cardboard insert 7 adheres to the plastic layer 6' and the back portion of the insert 7 adheres to the plastic layer 6.

[0009] In another example, U.S. Pat. No. 4,196,809 to Tonrey discloses a package having a top vinyl layer 15 adhered to a bottom paper layer 17. The top and bottom layers 15 and 17 are peeled apart to access the contents of the package. A paper sheet 29 may be positioned between the layers 15 and 17, but the paper sheet 29 is not taught as being separated into different portions upon separating the layers 15 and 17.

[0010] Moreover, after researching other conventional methods of packaging using polyvinyl chloride (hereinafter referred to simply as "pvc") plates and backboard cards to package articles, the inventor has determined that typically the card and pvc plates are stuck together using their narrow surface area or by a stitching technique applied in areas that flow beyond the card.

[0011] In one exemplary conventional packaging system, a single pvc plate is applied to the front or upper surface of the card. In this example, the pvc plate can be processed in a way such that the pvc plate is large enough to accommodate the article to be packaged therein. The plate is then immediately adhered to the card, thereby resulting in a rather aesthetically displeasing packaging system. In an alternate exemplary conventional packaging system, the inventor has noticed that the pvc plate is configured or shaped in such a way that the edges of the card are adhered to the pvc plate in small intervals. The pvc plate is shaped such that a short or relatively small gap remains between the card and the pvc plate at several locations remote from the article, which again results in a rather aesthetically displeasing packaging system.

[0012] In yet another exemplary conventional packaging system, the pvc plate is manufactured to have a slightly larger surface area than the card, thereby resulting in the pvc plate projecting beyond the outer periphery of the card. The projecting portion of the pvc plate is then used to connect or attach the pvc plate to the card by stitching. The resulting projecting portion of the pvc plate is also aesthetically undesirable and has been found to hinder the article from remaining in the packaging without moving since the article is not firmly retained within the packaging.

[0013] As such, there is clearly a need in the industry for a card-based secure packaging system that reliably retains the article within the packaging in a manner that will deter individuals from attempting to gain unauthorized access to the article, while being relatively easy for adults to open.

### SUMMARY OF THE INVENTION

[0014] An aspect of this invention is to at least overcome the above-discussed drawbacks of conventional card-based secure product packaging systems.

[0015] Another aspect of this invention is to provide a card-based secure product packaging system having an intermediate layer, e.g., a card, coated with an adhesive on the front and back surfaces. A pvc plate is attached to each adhesive layer, wherein the outer peripheral dimensions of each pvc plate are equal to the outer peripheral dimensions of the intermediate layer, e.g., the card and pvc plates do not project beyond the outer periphery of the other. A form or article receptacle is provided in the pvc plate forming the top cover of the packaging system to retain the article therein. Preferably, the receptacle is formed from a transparent material so as to be visible to consumers. When the packaging is opened, the intermediate layer can be split into two substantially equal pieces, with a front face portion of the intermediate layer remaining adhered to the top cover or top pvc plate while a rear face portion of the intermediate layer remains adhered to the bottom cover or bottom pvc plate.

[0016] To assemble the package, the front and rear faces of the intermediate layer are coated with a suitable adhesive material having a predetermined thickness. A pvc plate is then adhered or otherwise attached to the adhesive layer on the rear face of the intermediate layer. A pvc plate is then adhered or otherwise attached to the adhesive layer on the front face of the intermediate layer. The front cover or front pvc plate has an aperture or space formed therein that is configured to permit an article to fit therein. Both adhesive layers and the intermediate layer also have a space formed therein that is configured to permit an article to fit therein. A form or product receptacle sized to retain an article therein is configured to fit within the space formed in the front cover, both adhesive layers, and the intermediate layer. The rear cover or rear pvc plate does not have an aperture formed therein.

[0017] In other words, when assembling the package, the article is securely placed within the form or product receptacle. The receptacle is then positioned within the space or aperture defined in the front pvc plate. The front face of the intermediate layer is then coated with an adhesive material having a predetermined thickness. The front pvc plate is then adhered or otherwise attached to the front face of the intermediate layer. The rear face of the intermediate layer is then coated with an adhesive material having a predetermined thickness. The rear pvc plate is then adhered or otherwise attached to the rear face of the intermediate layer.

[0018] The packaging of this invention is intended to package all kinds and types of articles, such as, for example but in no way intended to limit the use thereof, jewelry, accessories, precious metals or stones, toys, food stuffs, pharmaceutical items, perfumes, lights, and the like. In addition, the packaging is intended to permit the packaging of such products in a manner that emphasizes aesthetics or is otherwise visually pleasing.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0019] Other aspects and features of this invention will be better understood from the following description, with reference to the accompanying drawings, wherein:

[0020] **FIG. 1** is an exploded perspective view of the packaging system according to a preferred embodiment of the invention;

[0021] **FIG. 2** is a side view of the packaging system of **FIG. 1** in an assembled state;

[0022] **FIG. 3** is a schematic diagram illustrating a back face of the card;

[0023] **FIG. 4** is a side view of the packaging system in a disassembled or opened state;

[0024] **FIG. 5** is a cross-sectional top or front view of the assembled packaging system taken along line D-D of **FIG. 2**;

[0025] **FIG. 6** is a cross-sectional bottom or rear view of the assembled packaging system taken along line B-B of **FIG. 2**;

[0026] **FIG. 7** is an exploded perspective view of the packaging system according to an alternate embodiment of the invention; and

[0027] **FIG. 8** is a perspective view of an alternate embodiment of the pvc plates.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0028] Referring to **FIG. 1**, which is an exploded perspective view of the packaging system according to a preferred embodiment of the invention, the packaging system includes an intermediate layer **3**, wherein front and back faces of the intermediate layer **3** are coated with adhesive layers **2** and **4**, respectively. Preferably, the intermediate layer **3** is formed from a paper or cardboard-based material.

[0029] However, it should be noted that it is within the scope of the present invention for the intermediate layer **3** to be formed from any other suitable material as long as the material is capable of being separated into first and second pieces in a thickness or depth-wise direction. In other words, the first and second pieces will have substantially equal width and length dimensions, i.e., approximately equal surface areas, while the first piece may have a thickness that is greater than, equal to, or less than the thickness of the second piece.

[0030] For ease of understanding, the intermediate layer **3** will hereinafter be described as card **3**.

[0031] As noted above, the front **3a** and back **3b** surfaces of the card **3** are coated with adhesive layers **2** and **4**, respectively. Moreover, the card **3** may also include an aperture or hole **3c** formed therein which is described below. As illustrated in **FIG. 1**, the adhesive layers **2** and **4** may be applied to coat the entire front **3a** and back **3b** surface areas of the card **3**.

[0032] A front cover or front pvc plate **1** is affixed to the front adhesive layer **2**, wherein the outer peripheral dimensions **8** of the front pvc plate **2** and the front adhesive layer **2**, i.e., width and length, are equal to each other as well as the card **3**. The front pvc plate **2** also includes a form or receptacle **6** extending therefrom in a direction away from the card **3**. Although the receptacle **6** is illustrated as being a three-dimensional rectangle, it should be noted that it is within the scope of the invention for the receptacle **6** to have any known and suitable geometric configuration that facilitates retention of an article (not shown) therein. It should also be noted that the receptacle **6** is preferably formed from a transparent material wherein the article being retained in the receptacle **6** is visible to a consumer.

[0033] As illustrated in **FIG. 1**, the aperture **3c** defined in the card **3** has a width and length that is substantially equal to the width and length of the receptacle **6**. Additionally, it is within the scope of the invention for the aperture **3c** to have a geometric configuration that corresponds to the geometric configuration of the receptacle **6**. The receptacle **6** is preferably shaped in a vacuum mold in accordance with the measurements of the article to be retained therein.

[0034] A back cover or back pvc plate **5** is affixed to the back adhesive layer **4**, wherein the outer peripheral dimensions **8** of the back pvc plate **5** and the back adhesive layer **4**, i.e., width and length, are equal to each other as well as the card **3**. Unlike the front pvc plate **2**, the back pvc plate **5** does not include a form or receptacle **6**, but rather is a single, blank sheet or plate without any apertures, projections, or other such disruptions in the continuity of the plate **5** to provide and facilitate stability of the packaging system. See **FIG. 1**.

[0035] **FIG. 2** is a side view of the packaging system of **FIG. 1** in an assembled state. It should be noted that, preferably, the front pvc plate **1**, card **3**, and back pvc plate **5** have substantially equal width and length dimensions, while the back pvc plate **5** has a thickness that is less than a thickness of the front pvc plate **1**. The front and back adhesive layers **2** and **4**, respectively, are of a predetermined thickness. As shown in **FIG. 3**, the back face **3b** of the card **3** includes a score line **7** that may be disposed anywhere thereon, but preferably near a corner of the card to facilitate opening of the packaging system as will be described below.

[0036] To disassemble or open the packaging system, a consumer or user bends the corner of the packaging about the score line **7** whereafter the front face **3a** of the card **3** cleanly and easily separates from the back face **3b** of the card **3**. Thereafter, the consumer would peel the front pvc plate **1** away from the rear pvc plate **5** to separate the packaging into a first or front piece **3d** and a second or back piece **3e**, each piece having nearly equal thickness. See **FIG. 4**. Because the receptacle **6** does not have a back to prevent the article from falling out and the card **3** includes an aperture **3c** corresponding to and aligned with the receptacle **6**, the consumer is then able to access the article retained in the receptacle **6**.

[0037] As shown in **FIGS. 5 and 6**, product and/or manufacturer indicia **14-20** may be provided on the card **3**. For example only, if the article retained in the receptacle **6** were gold or some other precious stone or item, indicia **17** could provide information regarding the carat of the gold. Indicia **18** could provide the name of the company selling the article, e.g., Golda<sup>TM</sup>, while indicia **19** could provide and indicate a certificate of authenticity from the manufacturer and/or seller guaranteeing the quality and authenticity of the packaged article being sold. In yet another example, indicia **10** could provide such information as where the gold or stone was mined; indicia **11** could be a barcode to help track the package for inventory and sales data; and indicia **13** could be a security strip to prevent the package from being stolen or shoplifted. It is also within the scope of the invention to provide an indicia **14** that is a hologram to prevent knock-offs or other such counterfeit goods as well as to further authenticate the quality of the article being sold. An indicia **15** could also be provided having a thermographic impression of the article manufacturer.

[0038] An indicia **16** could also be provided indicating correspondence information in case the consumer or seller wanted to contact the manufacturer of the article, while yet another indicia **20** could be provided wherein the indicia **20** is a watermark provided thereon for security purposes.

[0039] Although the packaging system is illustrated in the exemplary preferred embodiment of the drawing figures to be rectangular, it is within the scope of the invention for the packaging system to have any suitable geometric configuration that facilitates the retention of the article therein. As such, the packaging system may be triangular, circular, oval, pentagonal, trapezoidal, and the like, in shape. For example, **FIG. 7**, is an exploded perspective view of the packaging system according to another embodiment of the present invention.

[0040] In particular, the packaging system shown in **FIG. 7** includes a front pvc plate **1**, front adhesive layer **2**, card **3**, back adhesive layer **4**, and back pvc plate **5**. The front pvc plate **1** includes a spherical or ovoid form **6'** that retains the article therein. The form **6'** also retains an article retention assembly, which may include, for example only, first, second, and third nesting subcomponents **22**, **23**, and **24**, respectively, that are supported in the form **6'** by a pedestal **25**. Of course, it is within the scope of the invention to modify or otherwise alter the number and structural arrangement of the subcomponents which form the article retention assembly according to the packaging needs and goals of the article.

[0041] An exemplary explanation of the assembly process for the packaging system will now be provided.

[0042] Initially, the front pvc plate **1**, including the form **6** or **6'**, is vacuum molded and trimmed to have dimensions **8** that are suitable for the article to be packaged therein. The article, which may be retained in the article retention assembly first, is then placed in the form **6** or **6'** along with the article retention assembly, if appropriate. Then, the card **3** is prepared with an aperture **3c** that is configured to correspond to the packaging needs of the article therein as well as the appropriate indicia **10-20**. The card **3** is also trimmed to have dimensions **8** equal to the dimensions **8** of the front pvc plate **1**. The front and back faces **3a** and **3b**, respectively, of the card **3** are then coated with the adhesive layers **2** and **4**, respectively. The front face **3a** of the card is then affixed or adhered to the front pvc plate **1**. Finally, the back pvc plate **5** is affixed or adhered to the back face **3b** of the card **3** to complete the assembly order of the packaging system.

[0043] During the adhesion steps, that is, the step during which the card **3** is affixed or adhered to the front pvc plate **1** and/or the step during which the back pvc plate **5** is affixed or adhered to the card **3**, care should be taken with regard to temperature, pressure, and length of time the affixing or adhering pressure is applied so as to facilitate adhesion of the card **3** to the front pvc plate **1** as well as not to cause the back pvc plate **5** to deform. The appropriate adhesion temperature and time requirements were determined, after repeated experimentation, to be approximately in the range of 130° C. to 140° C. and 15 seconds to 30 seconds. It should also be noted that upon completion of the adhesion steps, the assembled package is sent to a cooling station where the package is maintained on a flat surface to cool so the front and back pvc plates **1** and **5** do not lose their shapes.

[0044] Preferably, the form **6** or **6'** should have a thickness of approximately 0.5 mm to 0.65 mm. The card **3** should

preferably have a thickness of approximately 0.30 mm to 0.40 mm. As noted above, the back pvc plate **5** is thinner relative to the front pvc plate **1** and preferably has a thickness of approximately between 0.25 mm to 0.35 mm. It should be noted that the dimensions provided herein are provided for exemplary purposes and that it is within the scope of the invention and would readily be understood by one of ordinary skill in the art for the dimensions of the package to vary based on the characteristics of the article being retained therein.

[0045] Although jewelry was provided as the example for the type of article to be retained in the package, it is within the scope of the present invention for any type of article to be retained therein. For example, precious stones, food stuffs, perfume, lights, pharmaceutical products, personal grooming items, compact disks, electronic accessories, batteries, and the like, may be the article retained in the package.

[0046] It is also within the scope of the invention to imbed a tracking device, such as either an active or passive identification chip, in the card **3** so as to enable the manufacturer or seller to maintain up-to-date inventory, location, and sales information.

[0047] Moreover, it is also within the scope of the invention to modify the front and back pvc plates **1'** and **5'** to be a single sheet with a score line **A** about which the plates **1** and **5** are folded before being adhered to the card **3**. See FIG. 8.

[0048] Additionally, while the preferred embodiments have been described herein as including a single form **6** or **6'**, it should be noted that it is within the scope of the invention to provide at least one form **6** or **6'**, i.e., one or more, depending on the packaging and marketing needs or goals. For example, although not illustrated herein, it is envisioned that single or multiple forms **6** or **6'** may be used to retain articles therein as well as other marketing logos or symbols, such as, for example only, the manufacturers logo, a cartoon character, a phrase, trademark, and the like.

[0049] While there has been described what are at present considered to be preferred embodiments of the present invention, it will be understood that various modifications may be made thereto, and it is intended that the appended claims cover all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

**1.** A multi-layered, secure packaging assembly for retaining an article therein, comprising:

a first cover plate having at least one receptacle configured to retain the article therein;

a second cover plate;

an intermediate layer disposed between the first and second cover plates, the intermediate layer including an aperture sized and configured to correspond to the at least one receptacle;

a first adhesive layer provided on a first surface of the intermediate layer; and

a second adhesive layer provided on a second surface of the intermediate layer,

wherein the first surface of the intermediate layer is opposite the second surface,

wherein the first surface of the intermediate layer having the first adhesive layer thereon is adhered to the first cover plate and the second cover plate is adhered to the second surface of the intermediate layer having the second adhesive layer thereon;

wherein the intermediate layer separates into a first piece and a second piece when the first and second cover plates are pulled apart in opposing direction, the first piece remaining adhered to the first cover plate and the second piece remaining adhered to the second cover plate; and

wherein the first and second pieces have a width and length that are substantially equal to each other.

**2.** The assembly according to claim 1, wherein the first piece has a thickness that is equal to a thickness of the second piece.

**3.** The assembly according to claim 1, wherein the first piece has a thickness that is less than a thickness of the second piece.

**4.** The assembly according to claim 1, wherein the first piece has a thickness that is greater than a thickness of the second piece.

**5.** The assembly according to claim 1, wherein the first and second cover plates are formed from poly vinyl chloride (pvc).

**6.** The assembly according to claim 5, wherein at least one of the first and second cover plates is transparent.

**7.** The assembly according to claim 1, wherein the first and second adhesive layers cover an entire surface area of the first and second surfaces of the intermediate layer.

**8.** The assembly according to claim 1, wherein the intermediate layer is formed from one of paper and cardboard.

**9.** The assembly according to claim 1, wherein at least one of the first and second surfaces of the intermediate layer includes a score line for separating the intermediate layer into the first and second pieces.

**10.** The assembly according to claim 1, wherein at least one of the first and second surfaces of the intermediate layer includes indicia provided thereon.

**11.** The assembly according to claim 1, wherein the at least one receptacle extends in a direction away from the first surface of the intermediate layer.

**12.** A multi-layered, secure packaging assembly for retaining an article therein, comprising:

a card having an aperture sized and configured to accommodate the article passing therethrough;

a cover plate having a first portion delimited from a second portion by a score line, wherein a width and length of the first portion is equal to a width and length of the second portion and card,

wherein the first portion of the cover plate includes at least one receptacle configured to retain the article therein;

first and second adhesive layers provided on opposing first and second surfaces of the card

wherein the first surface of the card having the first adhesive layer thereon is adhered to the first portion of the cover plate, the second portion of the cover plate is adhered to the second surface of the card having the

second adhesive layer thereon, and the score line of the cover plate defines a lateral edge of the assembly;

wherein the card separates into a first piece and a second piece when the first and second portions of the cover plate are pulled apart in opposing direction, the first piece remaining adhered to the first portion of the cover plate and the second piece remaining adhered to the second portion of the cover plate; and

wherein the first and second pieces have a width and length that are substantially equal to each other.

**13.** The assembly according to claim 12, wherein the first piece has a thickness that is one of equal to, less than, and greater than a thickness of the second piece.

**14.** The assembly according to claim 12, wherein the cover plate is formed from poly vinyl chloride (pvc) and at least one of the first and second portions of the cover plate is transparent.

**15.** The assembly according to claim 12, wherein the first and second adhesive layers cover an entire surface area of the first and second surfaces of the card.

**16.** The assembly according to claim 12, wherein the card is formed from one of paper and cardboard.

**17.** The assembly according to claim 12, wherein at least one of the first and second surfaces of the card includes a separation score line for separating the card into the first and second pieces.

**18.** The assembly according to claim 12, wherein the at least one receptacle extends in a direction away from the first surface of the card.

**19.** The assembly according to claim 1, wherein the intermediate layer has a thickness in a range between 0.30 mm to 0.65 mm, wherein the second cover plate has a thickness in a range between 0.25 mm to 0.35 mm, and wherein the thickness of the second cover plate is less than a thickness of the first cover plate.

**20.** The assembly according to claim 12, wherein the card has a thickness in a range between 0.30 mm to 0.65 mm, wherein the second portion of the cover plate has a thickness in a range between 0.25 mm to 0.35 mm, and wherein the thickness of the second portion of the cover plate is less than a thickness of the first portion of the cover plate.

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