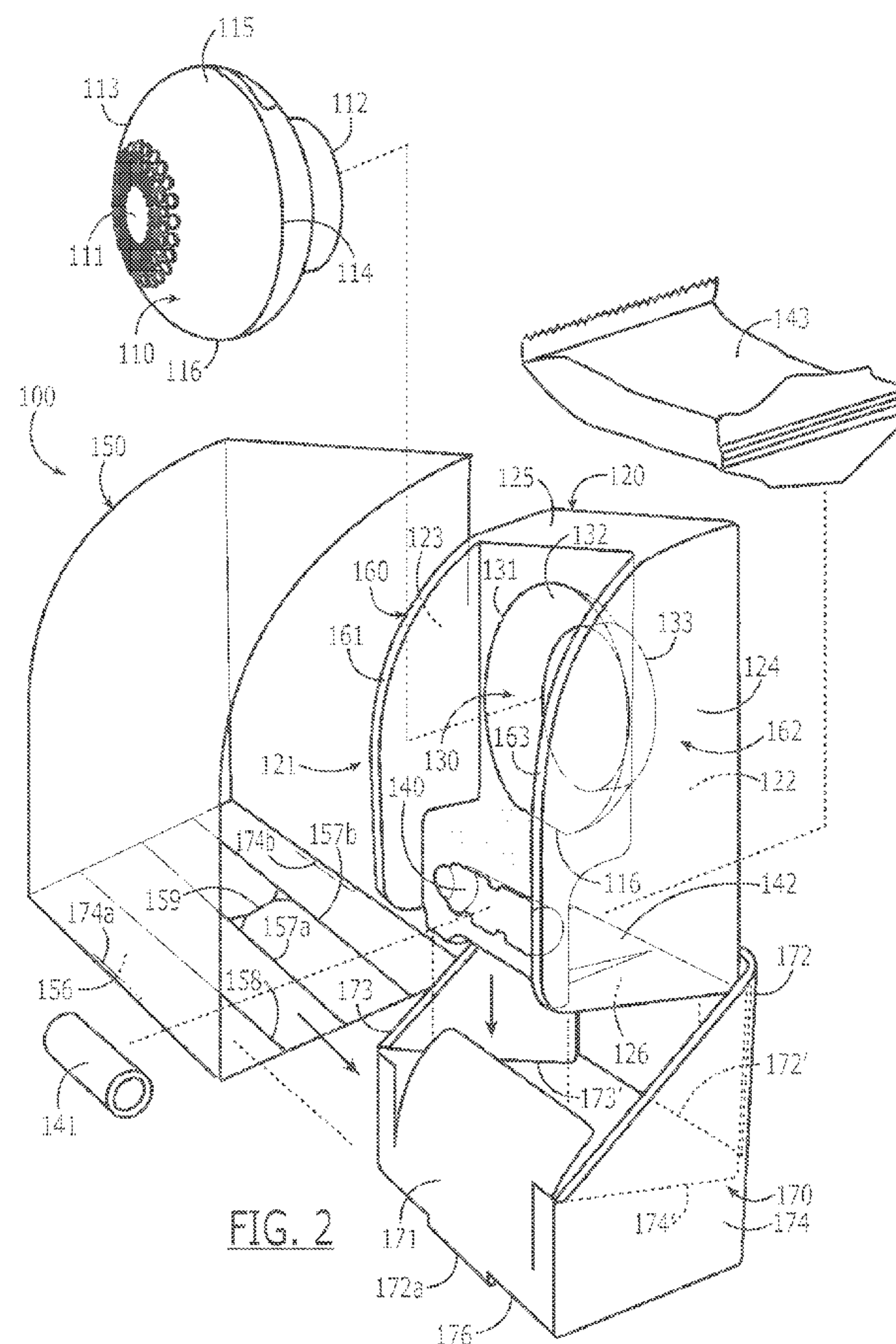




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(54) Title: ENVIRONMENTALLY SUSTAINABLE SECONDARY PACKAGING



(57) Abrégé/Abstract:

An environmentally sustainable secondary packaging that reduces material usage, as well as production materials and costs. The secondary packaging is designed to provide clear visual display of the product contained therein and therefore utilizes a clear



(57) Abrégé(suite)/Abstract(continued):

plastic packaging component. In the interest of increasing environmental sustainability of the secondary packaging, usage of clear plastic packaging material and also processing steps are reduced. Additional articles may be contained in the secondary packaging that need not be readily viewed by consumers when the secondary packaging is on display for sale in a retail store. Opaque packaging material, such as paperboard, may be used to cover and / or to enclose such additional articles without affecting visibility of the article to be displayed by the secondary packaging. Also in the interest of increasing environmental sustainability of the secondary packaging, usage of opaque packaging material is reduced as well. Finally, the components of the secondary packaging facilitate formation of the overall secondary packaging in a desired, non-standard (e.g., not cuboid or parallelepiped) shape.

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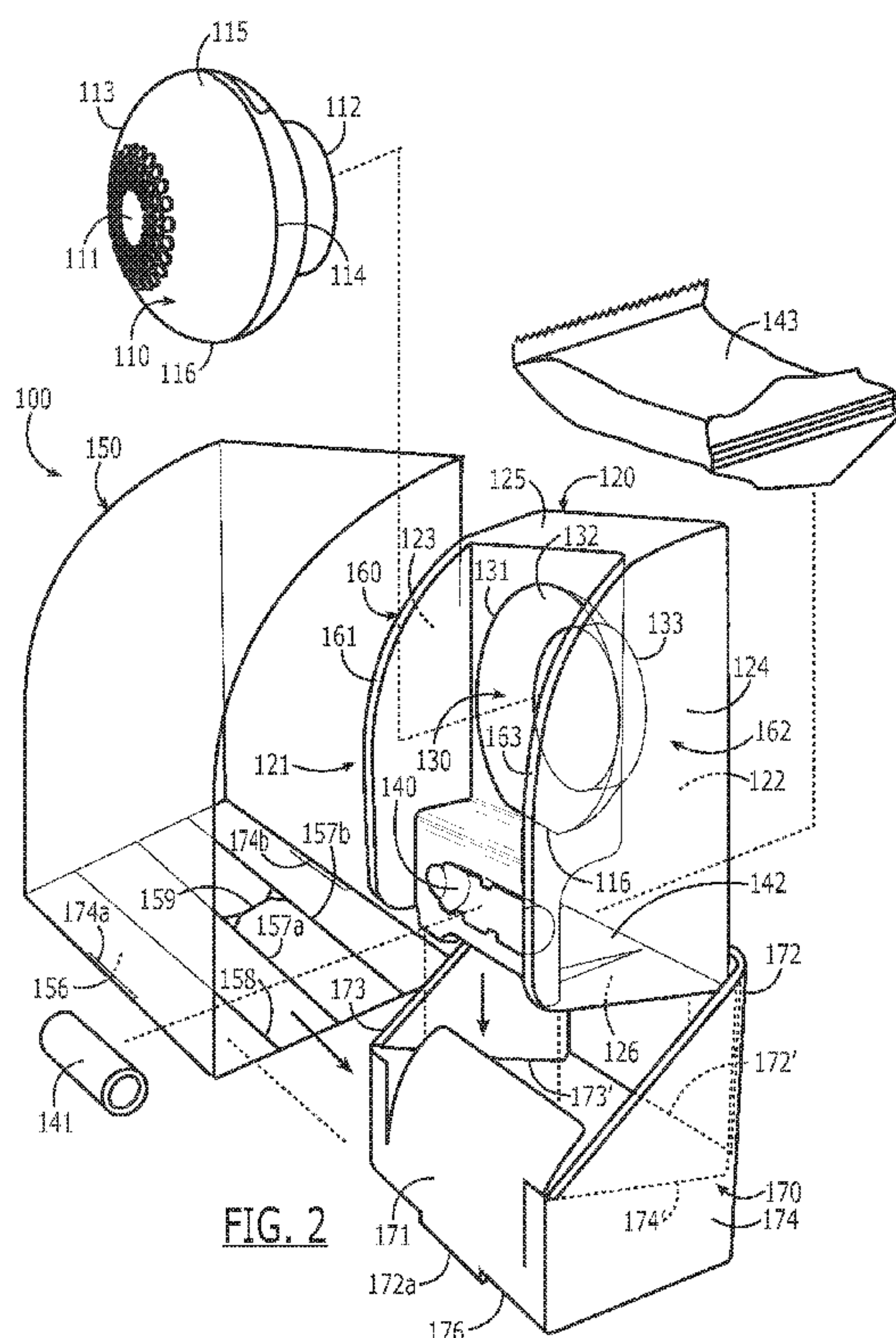
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[Continued on next page]

(54) Title: ENVIRONMENTALLY SUSTAINABLE SECONDARY PACKAGING



(57) Abstract: An environmentally sustainable secondary packaging that reduces material usage, as well as production materials and costs. The secondary packaging is designed to provide clear visual display of the product contained therein and therefore utilizes a clear plastic packaging component. In the interest of increasing environmental sustainability of the secondary packaging, usage of clear plastic packaging material and also processing steps are reduced. Additional articles may be contained in the secondary packaging that need not be readily viewed by consumers when the secondary packaging is on display for sale in a retail store. Opaque packaging material, such as paperboard, may be used to cover and / or to enclose such additional articles without affecting visibility of the article to be displayed by the secondary packaging. Also in the interest of increasing environmental sustainability of the secondary packaging, usage of opaque packaging material is reduced as well. Finally, the components of the secondary packaging facilitate formation of the overall secondary packaging in a desired, non-standard (e.g., not cuboid or parallelepiped) shape.

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ENVIRONMENTALLY SUSTAINABLE SECONDARY PACKAGING

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a continuation-in-part of and claims the benefit of the earlier filing dates of United States patent application 29/364,833, filed June 29, 2010, and United States patent application 29/366,821, filed July 30, 2010, which applications are hereby incorporated by reference herein as if fully disclosed herein.

FIELD OF THE INVENTION

[0002] The present invention relates to secondary packaging. More particularly, the present invention relates to secondary packaging for an article, preferably a consumer product, which permits ready visual display of the article contained therein, while preventing direct access to such product, and preferably also while reducing materials required to form such secondary packaging.

BACKGROUND OF THE INVENTION

[0003] A variety of secondary packagings are known in the art for enclosing consumer products (to prevent access thereto prior to purchase) while also displaying the article so that the consumer may visually inspect or examine (hereinafter, for the sake of convenience, reference will be made to only “inspect,” it being understood that terms such as “inspect,” and “examine,” and “view” and other similar terms are substantially interchangeable) the product contained therein. One common such secondary packaging is a half-clamshell or clamshell package formed from at least one substantially clear plastic element enclosing the product so that the product may be visually inspected by the consumer prior to purchase. The plastic element typically is formed in a desired shape, such as by thermoforming or cold forming or vacuum-forming or otherwise, to hold the product in place within the secondary packaging. The formed plastic element is either coupled to a back card (e.g., a paperboard card on which product information is provided), or sealed to another plastic sheet, or enclosed in a box (e.g., paperboard or plastic), to inhibit unwanted or unauthorized access to the product therein.

[0004] Because consumers typically desire information about the product to be purchased, and because manufacturers typically desire branding information and other consumer-targeted information (e.g., graphics, tag lines, etc.) on secondary packaging, and various agencies may require (or support) information about the product contained within the secondary packaging (e.g., Drug Facts required by the Food and Drug Administration, or electrical equipment information recognized or approved by the Occupational Safety and Health Administration, or certification of devices or products by the Underwriters Laboratories©), secondary packaging having transparent elements also generally includes a substantially opaque packaging element on which such information may be displayed. For instance, a half-clamshell secondary packaging typically includes a backing card (typically formed of paperboard) to which the formed clear plastic packaging element (generally known as a “blister” portion or element) is affixed to close the open end of the blister and thereby to enclose the consumer product between the blister and backing card. Even if a half-clamshell secondary packaging is formed from two plastic elements (a formed blister portion and a flat back portion), a paper or paperboard element typically is enclosed between the two plastic portions to provide product information to the consumer. Such secondary packaging often includes a hang hole through which a peg may be inserted to hang the packaging from a peg board for consumer display.

[0005] A clamshell type secondary packaging provides added visibility of the consumer product contained therein by mostly or completely enclosing the consumer product with substantially transparent packaging material (most commonly plastic). For instance, a clamshell type secondary package typically encloses the product in two pre-formed transparent sheets (or a single sheet folded over to enclose the product). Often, such packaging may be sealed to be resistant to accidental opening or opening without substantially destroying the packaging (such as resulting from opening by cutting along a line of weakening, via a tear strip, with the use of scissors, etc.). As noted above, typically it is desirable to provide information about the product for the consumer to peruse. Accordingly, clamshell type secondary packaging typically also encloses a substrate bearing such information, such as a product information card or a printed sheet of paper. Enclosure of items other than the consumer product itself results in increased

size of the secondary packaging to enclose such items, and thus results in increased material requirements. An alternative to enclosing such information-bearing substrate within the transparent clamshell material is to enclose the clamshell within such substrate, such as within a paperboard box bearing product information. Such alternative
5 likewise results in increased material requirements. Also, an exterior information-bearing substrate tends to impede or block visibility of the product contained within the packaging.

[0006] There is a further desire to impart secondary packaging with tamper evident features to inhibit or to prevent unauthorized access to the product(s) contained therein.

10 Typically, clamshell type packaging requires sealing of the components thereof. Such sealing requires heating equipment, and sufficient production time to create the seal. Also, such sealing often results in a package that is awkward even for the intended buyer to open.

[0007] In view of the above, there is a need for secondary packaging that permits
15 viewing of the consumer product contained therein by the consumer, and provides information about such consumer product, while also minimizing the required amounts of materials to form such secondary packaging. There is an additional need for a package that impedes undesired or unauthorized access to the contents thereof preferably without requiring additional processing steps to establish seals and without resulting in a package
20 that is unduly difficult for an authorized individual to open.

SUMMARY OF THE INVENTION

[0008] In accordance with principles of the present invention, secondary packaging is formed to permit ready viewing of the product contained therein. Preferably, the secondary packaging is also formed to provide sufficient information about the product
25 for perusal by a purchaser. Also in accordance with principles of the present invention, secondary packaging preferably is formed in a manner that requires less material and less costly production steps than prior art secondary packaging.

[0009] In accordance with one aspect of the present invention, a secondary packaging is formed from an at least partially transparent article holding / displaying component for

holding and displaying an article such as a consumer product (generally referenced herein as an “article” for the sake of convenience and simplicity without intent to limit) and a minimal amount of at least partially transparent material to enclose the article within the article holding / displaying component to inhibit removal therefrom. The transparent material preferably is a basic sheet of material that is not processed beyond the basic structure from which typical transparent packaging components are formed (e.g., is not molded or otherwise processed). Preferably, the sheet of material is wrapped around the article holding / displaying component to follow the shape of the article holding / displaying component. The resulting secondary packaging thus may have a unique shape substantially dictated by the shape of the article holding / displaying component.

[0010] In accordance with another aspect of the present invention, that may be achieved separately or in conjunction with the above-described aspect of the present invention, a uniquely-shaped secondary packaging is provided to enhance inspection of the product contained therein while also complementing, enhancing, or highlighting the unique form of the article contained therein. In one embodiment, the secondary packaging includes an article holding / displaying component in the form of an article tray with a non-rectangular cross-section (taken along a front-to-back axis) and a covering element enclosing an article in the article tray and also conforming to the shape of the article tray so that the secondary packaging, as a whole, has the unique shape of the article tray.

[0011] In accordance with a separate and independent aspect of the present invention, which may be considered related to the above-described aspect of the present invention yet not necessarily provided in conjunction therewith, a secondary packaging may be formed with an at least partially non-transparent element on which printed material (such as product information, logos, decorative elements, etc.) is provided. The non-transparent element preferably is formed to complement the transparent elements so as not to detract from display of the article within the secondary packaging. Preferably, the non-transparent element is formed to complement, enhance, or highlight the article within the secondary packaging. Thus, a unique combination of product-displaying materials and product-information-bearing materials may be provided in accordance with principles of the present invention to permit formation of a uniquely-shaped secondary

packaging as a result of the combination, rather than as a result of manufacturing processes performed on the materials (e.g., as a result of a mold shape used to form the transparent packaging material). In one embodiment, the non-transparent element is in the form of a partial carton. Such configuration preferably optimizes visibility of the article displayed within the secondary packaging (a partial carton having fewer and / or shorter walls to obstruct the article within the secondary packaging), and may be formed to complement, enhance, or highlight the display of the article within the secondary packaging. For instance, in one embodiment, a panel may be formed or configured as an element of the display of the article.

[0012] It will be appreciated that various of the above-described principles of the present invention support formation of an environmentally sustainable secondary packaging. For instance, secondary packaging formed in accordance with one or more principles of the present invention preferably requires fewer processing steps (such as achieved by using a sheet of material that has not been formed into another shape to enclose the article within the article holding / displaying component), less material (such as by not covering all sides of the article holding / displaying component with the sheet of material, and by forming a partial rather than full carton), and more environmentally-friendly materials (such as more-environmentally-friendly inks used to print on non-transparent materials than inks used to print on transparent materials; and use of non-transparent, typically paper-based, material to bear printed material is generally less costly and more environmentally friendly than the transparent, typically plastics, material) than required for state of the art secondary packagings.

[0013] These and other features and advantages of the present invention will be readily apparent from the following detailed description of the invention, the scope of the invention being set out in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The detailed description will be better understood in conjunction with the accompanying drawings, wherein like reference characters represent like elements, as follows:

[0015] FIGURE 1 is a perspective view of an exemplary embodiment of secondary packaging formed in accordance with principles of the present invention;

[0016] FIGURE 2 is an exploded perspective view of an exemplary embodiment of secondary packaging formed in accordance with principles of the present invention;

5 [0017] FIGURE 3 is a front partially exploded view of an exemplary embodiment of secondary packaging formed in accordance with principles of the present invention; and

[0018] FIGURE 4 is a bottom plan view of an exemplary embodiment of secondary packaging formed in accordance with principles of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

10 [0019] An exemplary secondary packaging 100 formed in accordance with principles of the present invention is illustrated in FIGURES 1-4. Secondary packaging 100 is configured to contain, and preferably also to display, an article for consumer sale. Because certain articles are preferably displayed on a support element (e.g., a shelf or in a display tray) rather than being hung for display (e.g., from a pegboard or clip strip),
15 secondary packaging 100 may be configured to be “shelf-ready” (configured for being supported by a support element, in contrast with being hung) and thus preferably has a bottom side configured to stably support second packaging 100 when laid on a support surface and need not have a back card or other extension or protrusion (such as for a hang hole). Although various features described below are particularly well suited for a shelf-
20 ready configuration, it will be appreciated that other configurations are within the scope of the invention as well.

[0020] Article 110 to be contained within and preferably also displayed by secondary packaging 100 may be a primary package for another article (e.g., packaging, such as a bottle, jar, tube, etc., in which a consumer product, such as lotion, cream, gel, etc., is
25 contained), or a device (e.g., a personal care device or a mechanical or electromechanical device that performs a particular function, such as a microdermabrasion device, an electric toothbrush, an MP3 player, a hair styling device, etc.), or another type of consumer product (e.g., an article that is marketed for sale to a consumer in secondary packaging, such as a toothbrush, a hairbrush, scissors, shavers, a molded article such as a

bar of soap, a toy, etc.), or any other type of article that may be packaged in a secondary packaging. For the sake of convenience, and without intent to limit, the term “article” is used herein to reference the primary element for which secondary packaging 100 is designed to contain and preferably also to display for retail sale to consumers.

5 [0021] Articles for sale to consumers typically have a face or side or surface (hereinafter “side” for the sake of convenience and without intent to limit) that is preferred for displaying to consumers when the article is on display for sale. Such side (referenced herein as the “display side” or “consumer-facing side” and typically, though not necessarily, the front side) thus typically is positioned closest to the front edge of the
10 support structure on which the consumer article is displayed. In accordance with a first aspect of the present invention, as may be appreciated, in particular, with reference to FIGURE 1, secondary packaging 100 preferably is formed to maximize visibility of article 110 contained therein, such as when on display for purchase at a retail location. Preferably, secondary packaging 100 displays article 110 so that at least the display side
15 of article 110 is unobstructed and viewable. Most preferably, article 110 is unobstructed within secondary packaging 100 so that article 100 is viewable from at least two different views. As used herein, “unobstructed,” and variants thereof, is understood to mean not blocked from view by another article, such as an opaque packaging element, and thus readily viewable without impediments. As used herein, a “view,” and variants thereof, is
20 understood as a view along / facing one or more of front side 101, back side 102, left side 103, right side 104, top side 105, or bottom side 106 of secondary packaging 100, and / or front side 111, back side 112, left side 113, right side 114, top side 115, or bottom side 116 of article 110. It will be appreciated that even if article 110 is spherical, when positioned in a secondary packaging 100 formed in accordance with principles of
25 the present invention, a three dimensional coordinate system as typically used in geometry, defined by a vertical Y axis (extending in a top-bottom direction), a horizontal X axis perpendicular to the Y axis (and extending in a left-right direction), and a Z axis perpendicular to both the Y axis and the X axis (and extending in a front-back direction), may be defined with respect to secondary packaging 100 and / or article 110. The above-
30 listed views thus may be defined along the X, Y, and Z axes, with left and right views

being along the X axis, top and bottom views being along the Y axis, and front and back views being along the Z axis.

[0022] As may appreciated by those of ordinary skill in the art, an article contained within a substantially transparent packaging element (such as made of substantially transparent plastics material) may be considered unobstructed by the transparent packaging element, in contrast with an article contained within a non-transparent packaging element (such as formed from a paperboard material). Thus, in accordance with the above-described aspect of the present invention, at least one component of secondary packaging 100 preferably is formed from a material that is at least partially transparent at least in the vicinity of article 110, and most preferably, in the regions of secondary packaging 100 that are positioned closest to article 110 to display article 110 in a manner that a consumer may readily visually inspect article 110 without obstruction by non-transparent packaging components. More particularly, the portions of secondary packaging 100 that are immediately adjacent (closest to) article 110 along at least one and preferably at least two of the front side 111, back side 112, left side 113, right side 114, top side 115, and bottom side 116 of article 110 are transparent, or at least semi-transparent, or at least mostly transparent (e.g., transparent over a majority of the area covering or immediately adjacent article 110 with only a minority of such area being opaque, such as as a result of printing) so that a consumer can inspect at least two views of article 110. Preferably, at least one view of article 110, most preferably along the consumer-facing side, is completely unobstructed. It will be appreciated that a view of the article may be considered unobstructed even if there is an obstruction along the viewing direction of such view. Even if an obstruction is present along a viewing direction, the corresponding view of the article may still be seen along a different viewing direction. For instance, if the front view of article 110 is partially obstructed along a front viewing direction, if the obstruction is spaced apart from article 110 along the front viewing direction, then the front view of article 110 may still be inspected from an angle with respect to the front viewing direction, such as along a side or top viewing direction, or an intermediate direction therebetween. For instance, even if an obstruction obstructs viewing along one viewing direction, the obstruction may be spaced apart from

article 110 along that viewing direction so that article 110 is viewable along another viewing direction.

[0023] In the exemplary embodiment of FIGURES 1-3, secondary packaging 100 includes an article holding / displaying component for holding article 110 in place within secondary packaging 100 without obstructing inspection of article 110 by a consumer. The article holding / displaying component of the exemplary embodiment of FIGURES 1-3 is in the form of an article tray 120 configured to display article 110 within secondary packaging 100 in a manner that maximizes visibility of article 110. In accordance with the exemplary embodiment of FIGURES 1 and 2, article tray 120 is formed from an at least partially transparent material (either fully transparent in at least some areas, or at least semi-transparent in at least some areas) so that article 110 is unobstructed by the material of article tray 120 along at least one and preferably at least two of front side 121, back side 122, left side 123, right side 124, top side 125, and bottom side 126 of article tray 120. The materials used to form article tray 120 preferably not only are at least partially transparent, but also are thermoformable to permit molding of the material into the desired form, such as by injection or blow molding, or by vacuum forming, or by another thermoforming or cold forming process. Exemplary suitable materials for forming article tray 120 include RPET (recycled polyethylene terephthalate), APET (amorphous polyethylene terephthalate), PVC (polyvinyl chloride), HIPS (high impact polystyrene), PP (polypropylene), and PLA (polylactic acid). The preferable thickness of the material used to form article tray 120 is in the range of 0.010 - 0.040 gauge, the specific gauge preferably being selected, in accordance with techniques known to those of ordinary skill in the art, to support article 110 in a stable manner.

[0024] Preferably, article tray 120 is formed to have an article holding compartment, such as an article well 130 for holding article 110 therein. Article tray 120 may be specifically configured to display article 110 on a shelf and thus may include a base (for example, along bottom side 126) configured to support secondary packaging 100 stably when secondary packaging 100 is laid on the base. In one embodiment, the sides of article tray 120 are slightly tapered (i.e., at an obtuse angle with respect to front side 121 of article tray 120) to facilitate removal of article tray 110 from a tool / mold (as may be

appreciated by those of ordinary skill in the art). To stabilize article tray 120 if laid on bottom side 126, feet (e.g., a projection with a bottom surface substantially at right angles with respect to front side 121 of article tray 120) may be formed along bottom side 126 to impart article tray 120 with shelf stability. It will be appreciated that formation of article tray 120 from a transparent or at least substantially or partially transparent material and in a self-standing configuration, and positioning of article well 130 spaced above bottom side 126 of article tray 120 permits article 110 to be held in article well 130 to appear as if article 110 is floating.

[0025] Article tray 120 preferably is formed to hold article 110 in place within secondary packaging 100 in a stable manner so that article 110 shifts minimally, and, most preferably, does not shift at all, so that article 110 is maintained in the position selected for optimal viewing by a consumer when secondary packaging 100 is on display for purchase by a consumer. Preferably, engagement points are formed (such as by the formation of an undercut, flange, notch, etc., along the peripheral edge of the well) in article well 130 and / or along front edge 131 of article well 130, depending on the nature of article 110. For instance, material may be left to extend inwardly from article well edge 131 at a minimum of two points along article well edge 131, extending peripherally along article well edge 131 at least about 0.25 inches (0.635 cm) and extending at a width or height (in a direction toward article 110, perpendicular to the periphery of article well edge 131) of no less than about 0.015 inches (0.0381 cm) to hold article 110 within article well 130 during handling and distribution. In addition, or alternatively, well walls 132 may be shaped and configured to conform to the size and shape of article 110 so that article 110 is held in place, preferably in a specific orientation, within article well 130 and thus also within article tray 120. If article well 130 follows the shape of article 110, there is less chance of article 110 falling out of or shifting in article well 130. Also, an article well 130 matching the shape of article 110 may be considered more aesthetically pleasing than an article well that does not match the shape of article 110 for various reasons. For instance, an article well 130 is not as noticeable if it matches the shape of article 110, thus possibly also permitting article tray 120 to be not as noticeable. Also, an article well 130 substantially matching the shape of article 110 would present substantially the same surface curvatures and therefore have substantially the same or at

least substantially complementary light reflectivity (rather than potentially conflicting reflectivity which may result from an article well 130 having planar surfaces and an article having curved surfaces). It will nonetheless be appreciated that it is not necessary for article well 130 to match the shape of article 110, as engagement points or other features may sufficiently hold article 110 within article well 130. It will further be appreciated that if it is not important if article 110 shifts, then article tray 120 may be formed in a different manner.

[0026] Article well 130 has an open end along front edge 131 through which article 110 is inserted, and a base 133 (the bottom surface of article well 130, furthest from open end 131). Article 110 need not reach and engage base 133. The open end of article well 130 preferably is oriented along the display face of secondary packaging 100 to face the consumer-facing side (in the exemplary embodiment of FIGURES 1-3, front side 101) of secondary packaging 100 (i.e., the side of secondary packaging 100 positioned to be inspected by a consumer when secondary packaging 100 is on display for inspection and purchase by a consumer). Such orientation is preferable particularly for high-end (generally more costly) articles intended to be readily viewed with minimal interference by materials enclosing the article (materials provided such as to maintain the article within the package and to prevent accidental or intentional removal of the article), which materials may detract from the appearance of article 110. Preferably, article 110 projects beyond front edge 131 of article well 130, further enhancing viewing of portions of article 110 unobstructed by article tray 120. It will be appreciated such configuration causes article tray to be front heavy (distributed closer to front side 121 than back side 122), thus benefiting from provision of the above-described feet on bottom side 126 to keep article tray 120 from falling forward.

[0027] It will be appreciated that secondary packaging 100 may also contain additional elements or articles such as parts (e.g., replacement elements), or accessories (e.g., attachments, replaceable or consumable components, decorative elements, etc., to accompany or to be used in conjunction with article 110), or power elements (e.g., power cords, charger units, batteries, etc.), or written materials (e.g., product information, documentation such as manuals, instructions, warranty information, or promotional materials). Accordingly, in addition to article well 130, article tray 120 may have one or

more additional wells 140 formed to hold additional elements or articles in place within secondary packaging 100. One or more of additional wells 140 may be formed to hold an article in place so that such article does not move around as secondary packaging 100 is moved (such as during transport or while being handled by a consumer). For instance, an
5 article such as a power element (e.g., battery, power cord, charger) may create rattling noises, and may be heavy enough to cause damage to secondary packaging 100 and even to article 110 if not restrained, such as by placement within an additional well 140.

Additional wells 140 may be formed in the same or similar manner as article well 120 is formed to retain an article therein. In addition, or alternatively, article tray 120 may be
10 formed to have a holding space 142 along back side 122 with sufficient volume for holding additional elements to be sold with article 110 (preferably such additional elements are lightweight or soft and need not be restrained within secondary packaging 100). For instance, if article 110 is a battery-powered device, such as a skin cleanser or a microdermabrasion device, then a battery 141 may be stored in additional
15 well 140, and a package of replacement cleaning pads 143 may be stored in holding space 142.

[0028] As noted above, the open end of article well 130 preferably faces consumers so that article tray 120 does not cover article 110. However, so that article 110 is not handled by consumers or, worse, tampered with or even stolen, article 110 must still be
20 enclosed and secured within article tray 120. In order to enhance visibility of article 110 within secondary packaging 100 without detracting from the appearance of article 110, in accordance with one aspect of the present invention, instead of an additional molded packaging element covering article 110 (as in typical secondary packagings with an article tray), preferably a sleeve 150, formed from a sheet of at least partially transparent
25 material, encloses article 110 within article well 130 in article tray 120. As used herein, a “sheet” of material is to be understood as the blank or initial form of a given material before the material is further processed, such as by molding, into another shape or form. A sheet of substantially transparent material is to be understood as a substantially flat, unformed web of substantially transparent material, such as plastic, formed by extrusion
30 (e.g., of plastic in liquid or pellet form) or other processes well known to those of ordinary skill in the art and thus not detailed herein. The sheet is generally considered

the basic form or starting point for other plastic packaging components (other than starting from pellets or liquid plastic material, such as with injection molded components), and thus the least processed form. Such a sheet of material commonly may be further processed, formed, or shaped into something other than a sleeve. By way of example, a molded element or vacform, such as article tray 120, typically is formed by molding a sheet of material, whereas a tube may be formed by rolling a sheet to form a tube without otherwise further processing the material (such as by heat or pressing).

[0029] In accordance with principles of the present invention, sleeve 150 preferably is formed simply by die cutting a desired shape from a sheet or web of material and manipulating the die cut material around article tray 110 without further processing (such as heating or welding) the sheet of material. Thus, the present invention essentially permits usage of the basic element used to form secondary packaging components without processing such basic element further, such as to actually form a molded element, thereby providing a secondary packaging requiring less expensive and / or fewer manufacturing steps and / or fewer tools (e.g., molds) than required to manufacture prior secondary packagings such as clamshells or blisters. It should be noted that use of a sheet of material that is not processed further (such as by molding) generally requires less material than packaging components formed by further processing. For instance, formed packaging components (e.g., vacforms) typically are formed from a sheet of material, as noted above. Once the sheet is formed into the desired shape, the material typically is trimmed – in contrast with sleeve 130 which is cut to the desired final configuration and therefore does not require trimming or other excess material to be discarded. Most preferably, sleeve 150 is formed from a single component – just the basic sheet material – and not coupled to additional elements as in the case of transparent sheets forming windows in paperboard packaging components (wherein the resulting packaging component is formed from a plastics component and a paperboard component, each formed separately and then coupled together in a separate manufacturing step). Also, it will be appreciated that if it is desirable to provide printed material on the element enclosing article 110 within article tray 120, it is generally much simpler and economical to print on a sheet of material than on a molded element. For instance, as explained in greater detail below, although sleeve 150 may present a curved surface along front 101

and top 105 of secondary packaging 100, printed information 152 may readily be provided on such curved surface because of the initial flat configuration of the material from which sleeve 150 is formed. Additional printed information 154 may be provided in other regions as well. It will be appreciated that the content of printed information 152 and 154 may be of any desired nature, and is not limited to the type of information illustrated in the figures. In addition, it will be appreciated that, for the sake of simplicity, printed information 152 and 154 is not illustrated in all of the figures.

[0030] As may be appreciated by one of ordinary skill in the art, the sheet of material from which sleeve 150 is formed preferably is sufficiently flexible to permit bending or flexing of the material to wrap around and to envelop article tray 120 flexibly without causing cracking or breaking of sleeve 150. Sleeve 150 may be formed from the same materials that may be used to form article tray 120 (described above), preferably excluding HIPS. Paper stock may also be used, except, of course, that the aspect of the present invention of enhancing visibility of article 110 would not be met. The thickness of the material from which sleeve 150 is formed preferably is selected so that sleeve 150 can conform to the shape required to enclose article 110 within article tray 120. A suitable manufacturable range of thicknesses for the material of sleeve 130 is 0.008 - 0.030 gauge. It will be appreciated that a much thinner material may be used while still achieving the desired enhanced visibility of article 110, reduction in material usage and processing, and additional benefits (described below) which may result from the use of sleeve 150. For instance, a shrink film thick enough to maintain its shape (e.g., does not recede or collapse or pucker or wrinkle) may be used, the thickness depending on the material selected.

[0031] Because a sheet of at least partially transparent material generally is not as highly curved as article 110 or article tray 120, light reflectivity off sleeve 150 generally is substantially lower than light reflectivity off an at least partially transparent cover or closure element molded to conform more closely to the shape of article 110, such as a second molded plastic element as typically used to enclose an article in a clamshell-type secondary packaging. Accordingly, visibility of article 110 is less impeded by being enclosed or covered by sleeve 150 than by a molded element. Preferably, sleeve 150 is spaced apart from article 110 to reduce any affect sleeve 150 may have on the appearance

of article 110. Moreover, sleeve 150 preferably is formed from a sheet of material that is formed into the final sleeve configuration by simple folding or bending without further processing, such as molding, and thus is more cost and energy efficient than other packaging components such as molded elements.

5 [0032] If desired, sleeve 150 may be wrapped around article tray 120 about only a single axis (the X axis in the exemplary embodiment of FIGURES 1-4), leaving open opposite ends (in the case of the exemplary embodiment of FIGURES 1-4, left side 103 and right side 104) of secondary packaging 100 along the axis about which sleeve 150 is wrapped, and thereby also utilizing less material than would be required to cover all sides
10 of article tray 120. Sleeve 150 preferably at least encloses article 110 within article tray 120 to prevent inadvertent or unauthorized access to article 110 or exposure of article 110 to undesired elements (e.g., moisture, dirt, or dust). If sleeve 150 is wrapped about only a single axis (rather than fully enclosing article tray 120 on all sides) and an additional packaging element to enclose article 110 is not provided, and particularly if
15 article 110 projects beyond front edge 131 of well 130 in article tray 120 (as described above, and as illustrated in the exemplary embodiment of FIGURE 2), then article tray 120 may be configured to enclose article 110 in conjunction with sleeve 150. In the exemplary embodiment of FIGURES 1-3, article tray 120 may be formed with side walls 160, 162 projecting beyond front edge 131 of article well 130 and also beyond the
20 forward-most surface of article 110, to enclose article 110 along the sides not covered by sleeve 150. It will be appreciated that since article tray 120 (particularly article well 130) typically is formed with a particular article 110 of a predetermined size and shape in mind, the height of side walls 160, 162 necessary to extend beyond an article to be held within article well 130 of article tray 120 is readily determinable. Sleeve 150 may be laid
25 over the respective front-facing surfaces 161, 163 of side walls 160, 162 (effectively, portions of front side 121 of article tray 120), as well as over top side 125, back side 122, and bottom side 126 of article tray 120 to enclose article 110 within article well 130. Article 110 is thereby enclosed in secondary packaging 100 by sleeve 150 and side walls 160, 162 despite the projection of article 110 beyond front edge 131 of article
30 well 130. It will be appreciated that projection of side walls 160, 162 forwardly beyond article 110 permits sleeve 150 to be spaced apart from article 110 so as to reduce any

affect the presence of sleeve 150 may have on the visual impression of article 110. It will further be appreciated that projection of only side walls 160, 162 beyond front edge 131 of the opening of article well 130 may be sufficient (without also requiring top side 125 and / or bottom side 126 of article tray to have side walls extending beyond front
5 edge 131).

[0033] The provision of side walls 160, 162 on article tray 120 to function in conjunction with sleeve 150 to enclose article 110 within article tray 120 permits formation of a secondary packaging with a unique form or shape in accordance with a second aspect of the present invention. In particular, in accordance with a second aspect
10 of the present invention, separate and independent from other aspects of the present invention yet optionally combinable therewith, side walls 160, 162 may be formed in any desired shape, defining a unique cross-sectional shape (in the Y-Z plane, or as cut in a front to back direction and viewed from the side) of secondary packaging 100, and thus a uniquely-shaped secondary packaging. For instance, typical secondary packages are
15 substantially rectilinear solid shapes (having quadrilateral, rectilinear, or angular shapes, such as cuboid or prisms, with all side walls being square or rectangular) or curvilinear shapes generated from basic curvilinear shapes (such as tubes with circular end walls), and / or have side walls generally meeting at approximately right angles. In accordance with this second aspect of the present invention, side walls 160, 162 may have a curved,
20 non-rectangular, or otherwise non-standard (for secondary packaging) or irregular shape, such as a combination of curved and rectilinear segments. For instance, the shape of side walls 160, 162 may be based on the shape of article 110 or the shape of a logo associated with article 110. Upon enveloping article tray 120 within sleeve 150, the perimeter of side walls 160, 162 on which sleeve 150 is laid dictates, at least in part, the resultant
25 shape (or at least cross-sectional shape) of secondary packaging 100. More particularly, when sleeve 150 is laid on the peripheral surfaces of side walls 160, 162, the substantially planar surface of sleeve 150 follows the shape of the periphery of side walls 160, 162, resulting in a contoured surface corresponding to the contours of the periphery of side walls 160, 162. As such, article tray 120, and more particularly side walls 160, 162, not
30 only contribute to enclosing article 110 within secondary packaging 100, but also affect the overall dimension and configuration and shape of secondary packaging 100. Turning

to the exemplary embodiment of FIGURES 1 and 2, exemplary secondary packaging 100 may be seen to have a curvilinear cross-sectional shape with a curved front-top face and substantially flat left, right, back, and bottom side faces, such shape being driven by the shape of side walls 160, 162, which have a front edge and top edge formed as a substantially continuous curve. Such shape may be said to be based on (specifically, a quarter of the shape of) a logo shape of a rectangle with rounded corners, such as illustrated in exemplary printed information 152. If desired, as noted above, printed information 152 (e.g., graphics, branding, product information, or other indicia or markings) may be provided along the curved front-top wall of secondary packaging 100 (preferably on the forwardly and upwardly facing surface of sleeve 150), such positioning generally having higher visibility by consumers than if on a vertical, forward-facing front wall or horizontal, upward-facing top wall of a typical box-type secondary packaging. It will be appreciated that side walls 160, 162 may be formed in other shapes, within the scope of the present invention, to result in a secondary packaging that preferably is not in a standard form.

[0034] In order to achieve a clean, neat appearance, if faces of a secondary packaging 100 formed in accordance with principles of the present invention meet at angles, then it is preferable to facilitate bending of sleeve 150 at such corners to get a crisper appearance. For example, sleeve 150 may be provided at appropriate locations with crease fold lines. As used herein, the term “crease fold line,” and variants thereof, means an area of a structure that promotes or enhances bending, folding, or creasing, without necessarily promoting separation, about the area, such as achieved by weakening such area of the structure (e.g., by lines of weakness, including, without limitation, score lines that weaken the material to permit creasing, half-cut lines that are cut partially through the thickness of the material, or perforation lines formed by alternating full cuts and lands to aid in bending or creasing). Crease fold lines may be formed in any manner known to those of ordinary skill in the art, including, without limitation, mechanical means, such as cutting or die cutting, that may form bar scores, or microperforations (preferably 80-200 teeth/inch); or non-mechanical means, including, but not limited to, radio-frequency, chemical etching, lasers, heat, etc.; or combinations of mechanical and non-mechanical means. Preferably, to reduce manufacturing steps and to simplify the

manufacturing process, crease fold lines are formed with the same die used to die cut sleeve 150 from the bulk material (sheet or web) from which sleeve 150 is formed.

Sleeve 150 then may be positioned around article tray 120, and creased along its crease fold lines as appropriate, to conform substantially to the outer form of article tray 120 and secured, such as by glue or welding, in place. It will be appreciated that crease fold lines may also be used to permit flattening of sleeve 150 (in contrast with formed, three-dimensional packaging components like vacforms) to take up less space in storage and transit and to facilitate shipment thereof to an assembly location at which sleeve 150 is assembled with the other components of secondary packaging 100.

[0035] Upon manipulating sleeve 150 about article tray 120 to enclose and preferably also to secure article 110 therein, the free ends of sleeve 150 preferably are secured in a closed configuration. For example, the free ends of sleeve 150 may be secured (such as by sealing or by means of a separate affixing element such as a tie or snap) to each other or to article tray 120 or to another packaging element of secondary packaging 100 to maintain sleeve 150 in its wrapped configuration. One of at least three classes of adhesives may be used to secure sleeve 150 in a closed configuration: hot melt, such as HMA (hot melt adhesive), paraffin, hydrocarbon waxes (generally pre-heated to a liquid state and then applied and cooled), which may be used on plastic as well as paperboard materials; PUR (polyurethane reactive materials), such as a hot melt adhesive that cross-binds to a variety of substrates completely after a 24-48 hour curing process, which may be used on plastics alone, in a liquid state; or cold or white adhesive, such as polyvinyl acetate, which binds paperboard fibers and is typically used in joining seems in paperboard conversions. If desired, a tear feature may be formed in sleeve 150 to facilitate removal of sleeve 150. In the exemplary embodiment illustrated in FIGURE 4, a tear feature is provided in bottom side 156 of sleeve 150 by providing a line of weakness, preferably in the form of a pair of lines of weakness 157a, 157b forming at least one tear strip 158 therebetween. Preferably, lines of weakness 157a, 157b are microperforation lines (formed such as by a cutting instrument with 80-200 teeth/inch), or standard perforations (such as 1/16 inch cuts and 1/16 inch lands, or 1/8 inch cuts and 1/8 inch lands), depending on factors known to those of ordinary skill in the art, such as the material of sleeve 150 and the desired opening force required to tear the tear feature.

If desired, cut 159 may be formed to separate tear strip 158 into two tear strips and to facilitate lifting an end of one of tear strips 158 to tear open sleeve 150. Cut 159 may be shaped to facilitate lifting of an end of tear strip 158, and preferably is shaped to result in angled or rounded corners along the ends of tear strips 158 to eliminate sharp edges.

5 [0036] As discussed above, and as may be appreciated with reference to the exemplary embodiment illustrated in FIGURES 1-3, secondary packaging 100 may, in accordance with one or more aspects of the present invention, be formed from more than one at least partially transparent component. In addition to the above-described features of secondary packaging 100, such as protecting, displaying, and / or supporting
10 article 110, secondary packaging 100 typically also is designed to provide information about the product (e.g., branding, indicia, UPC or bar codes, a description of product use and / or benefits, ingredients or components lists, specifications, product information, information required by various government agencies, etc.) or at least to enhance the appearance of secondary packaging 100 with graphic elements. Accordingly, secondary
15 packaging 100 preferably includes indicia-bearing surfaces on which written material, graphics, etc., may be provided such as by printing. However, provision of printed material on an at least partially transparent secondary packaging may be at odds with various above-described benefits of the present invention such as reducing materials used, simplifying manufacturing processes, and facilitating viewing of the article within
20 secondary packaging. For various reasons, such as the fact that ink generally does not adhere well to typical transparent materials, printing on transparent material often requires more expensive inks and / or more expensive printing processes and / or more printing steps (e.g., multiple printing steps to apply several layers of ink so that the ink is readily legible). Accordingly, it may be desirable to provide a non-transparent (e.g.,
25 opaque or translucent) material on which to print material.

[0037] In accordance with a third aspect of the present invention, which may be (but not necessarily is) separate and independent from the above-described separate and independent aspects of the present invention, a non-transparent packaging element is provided in addition to article tray 120 and sleeve 150 to form secondary packaging 100.
30 Suitable materials for a non-transparent packaging element include paper-based materials, such as paperboard, or other materials that readily accept and display printed

material. The material may or may not be coated or otherwise treated for printing purposes, depending on the desired printing effect. It will be appreciated that although a substantially opaque label affixed to one or both of article tray 120 and sleeve 150 may satisfy this third aspect of the present invention, the non-transparent packaging element preferably is a structural element that not only provides billboard space for printed material, but also may serve additional packaging purposes or functions.

[0038] In the exemplary embodiment illustrated in FIGURES 1-3, secondary packaging 100 is provided in accordance with at least the third aspect of the present invention with a structural non-transparent packaging element in the form of a partial carton 170. Partial carton 170 preferably has fewer and / or shorter walls than typical carton elements of secondary packagings, leaving at least one side of article tray 120 unobstructed for viewing of article 110 therein. In the exemplary embodiment of FIGURES 1-3, front wall 171, back wall 172, left wall 173, and right wall 174 of partial carton 170 do not even extend the full height of article tray 120, thereby leaving more than one side of article tray 120 unobstructed for viewing of article 110 therein. It will be appreciated that provision of a bottom wall 176 is optional. Although left wall 173 and right wall 174 are illustrated as having slanted top edges, other configurations are within the scope of the present invention. If partial carton 170 is formed by folding a blank of material (e.g., paperboard) into the desired configuration, then typically the free edges of the blank will be exposed at least in some areas. If desired, additional blank material 172', 173', 174' (the last being hidden from view in FIGURE 2) may be provided to permit additional blank material 172', 173', 174' to be folded over the wall from which it extends so that the cut or "raw" or exposed edges of the carton blank are not exposed, but, instead, a clean and neat edge is visible. Such technique is known in the art and thus further detail need not be provided. Such configuration of the side walls of partial carton 170 also permits printed matter to be provided within the interior of partial carton 170 in a cost effective manner. In particular, only one side of the material needs to be printed, and, if the material is primed, only one side would be primed, thereby reducing materials as well as processing steps. By folding over portions of the side walls of partial carton 170, the printed exterior surface of partial carton 170 is positioned for viewing in the interior of partial carton 170 so that printing only need to be performed on

the exterior surface of partial carton 170. Various printed material, such as messaging, logos, graphic images, etc., may thus be readily and cost effectively provided along at least part of the interior of partial carton 170.

[0039] As may be appreciated, partial carton 170 requires less material than required to form typical secondary packagings utilizing full (six-walled) or half (five-walled) cartons as non-transparent packaging elements. The size of partial carton 170 preferably is restricted to provide the desired billboard space for the printed material to be provided on the exterior of secondary packaging 100, without providing excess unnecessary space, thereby further reducing material usage. The size of partial carton 170 may also be dictated by various functions other than providing billboard space for printed material. For instance, it will be appreciated that at least in the exemplary embodiment of FIGURES 1-3, back wall 172 of partial carton 170 provides the most space for printed material (even if back wall 172 does not extend the full height of secondary packaging 100), and, possibly, may be all the space needed for bearing printed material. Left wall 173 and right wall 174 may be provided simply to provide decorative touches (e.g., providing logos or simply design work or colors to enhance the appearance of secondary packaging 100). Partial carton 170 preferably is configured so that it may be folded flat for shipping purposes (similar to sleeve 150) and preferably is further configured for popping open from the folded configuration (known in the art as a “pop-up” configuration or a Hymes auto-lock bottom configuration) into a final configuration for assembly with other components of secondary packaging 100.

[0040] It will be appreciated that partial carton 170 satisfies several desirable characteristics of the present invention. For instance, partial carton 170 preferably covers one or more and preferably fewer than all sides of article tray 120, leaving at least one side of article tray 120 unimpeded by non-transparent material, thereby also meeting the above-described first aspect of the present invention of providing sufficient exposure of article 110 within article tray 120 and secondary packaging 100 for inspection by a consumer. As may be appreciated with reference to the embodiment illustrated in FIGURES 1-3, exemplary partial carton 170 permits viewing of article 110 along at least front side 111, left side 113, right side 114, and top side 115 of article 110. In addition, if article tray 120 has more than one well for containing elements (in addition to

article 110) that preferably are not visible when secondary packaging 100 is on display for consumer sale, partial carton 170 preferably has more than one side wall that may obstruct view of any additional well 140 and elements therein. In the exemplary embodiment of FIGURES 1-3, one or more of side walls 171, 172, 173, 174 may cover
5 elements within secondary packaging 100 that preferably should be hidden from consumer view when secondary packaging 100 is on display for sale. In addition, bottom wall 176 of partial carton 170 preferably is shaped and configured, such as in a substantially rectilinear flat shape, to support secondary packaging 100 when rested on bottom side 106 of secondary packaging 100 and bottom side 176 of partial carton 170.
10 If partial carton 170 is formed by folding a paperboard blank, partial carton 170 typically will provide a stiffer bottom side 176 than typically provided by a side wall of article tray 120 such as forming bottom side 126 of article tray 120 (i.e., a side wall extending from the wall in which the article-holding well is formed, in contrast with the wall in which the article-holding well is formed or the side of the tray opposite the wall in which
15 the article-holding well is formed).

[0041] It will also be appreciated that a partial carton provides an environmentally sustainable solution to provision of printed material, in accordance with principles of the present invention discussed earlier. In addition to the obvious benefit of material cost-savings (typical non-transparent materials such as paper-based materials are less costly
20 than typical transparent materials such as plastics, and less material is used to form a partial rather than a full carton), printing on non-transparent material is overall easier (e.g., fewer steps and less complicated processing) and less costly (both in processing and in ink materials) than printing on transparent material. In addition, the transparent tray element in which the consumer product is held may be inserted into a partial carton rather
25 than being sized to enclose a non-transparent element. The size of the typically more costly transparent element thus is not increased to accommodate the less costly non-transparent element as in prior art clamshell-type secondary packagings sized to enclose not only the consumer product but also the non-transparent elements. Although sleeve 150 is wrapped about the exterior of article tray 120, the additional material
30 required to enclose partial carton 170 in addition to simply article tray 120 alone is marginal. It will further be appreciated that because partial carton 170 is formed

independently of the preferably plastic article tray 120 and sleeve 150, partial carton 170 is readily recyclable without having to remove non-recyclable plastics materials.

[0042] It will be appreciated that in addition to simply covering portions or contents of secondary packaging 100 (other than article 110) so that they do not detract from display of article 110, partial carton 170 may be formed to complement, enhance, or highlight article 110. For instance, at least a portion of partial carton 170 may be formed to complement or enhance or highlight display of article 110 within secondary packaging 100. In the exemplary embodiment of FIGURES 1-3, front wall 171 of partial carton 170 is configured (such as by die cutting) to be curved and tucked under article 110 to complement the curved shape of article 110. As such, front wall 171 not only covers additional well 140 formed in the front of article tray 120, but also enhances or complements or highlights the curvature of curved article 110. Moreover, by being tucked under article 110, front wall 171 appears to support article 110 minimally such that article 110 still appears to float within secondary packaging 100 (a visual impression which preferably is achieved by a substantially transparent article tray 120 holding article 110 in an elevated position above a support surface). If desired, the stiffness of the material of partial carton 170 and the configuration of front wall 171 and relative positions of the curved portion of front wall 171 with respect to article 110 may be selected so that front wall 171 contributes to maintaining article 110 in position within article well 130. For instance, one or more of such factors may be adjusted so that front wall 171 provides sufficient pressure against bottom side 116 of article 110 to secure article 110 within article well 130.

[0043] Although partial carton 170 adds another component to secondary packaging 100, partial carton 170 may facilitate closure of secondary packaging 100 by interlocking with sleeve 150. In the exemplary embodiment of FIGURES 1-4, tabs 172a, 172b formed on partial carton 170 for interlocking with slots 174a, 174b in sleeve 150 to form a tamper resistant closure. Tabs 172a, 172b may be formed in any convenient manner, such as by die cutting the blank from which partial carton 170 is formed so that upon folding into partial carton 170, a portion of one of front wall 171 and bottom wall 176 and / or a portion of one of back wall 172 and bottom wall 176 extends beyond the remaining edges of such wall to form a protruding tab that may be inserted into

slots 174a, 174b. Slots 174a, 174b may similarly be formed in any convenient manner, such as by die cutting at the time sleeve 150 is die cut from the sheet of material from which it is formed. It will be appreciated that such interlocking of packaging components may alternatively be achieved between sleeve 150 and article tray 120. Also tabs may be
5 formed along different side walls of partial carton 170, depending on the relative position of sleeve 150 about partial carton 170.

[0044] It will be appreciated that the exemplary embodiment illustrated in the figures has several separate and independent inventive features, which each, at least alone, has unique benefits which are desirable for, yet not critical to, the present invention.

10 Therefore, the various separate features of the present invention need not all be present in order to achieve at least some of the desired characteristics and / or benefits of the present invention. One or more separate features may be combined, or only one of the various features need be present. In view of the above, it will be appreciated that the present invention provides a secondary packaging with one or more beneficial features which
15 may be present independently or in combination with one another. Secondary packaging 100 preferably is formed from a minimal number, and most preferably no more than three, packaging components: article tray 120, sleeve 150, and partial carton 170. The components of secondary packaging 100 preferably are formed in a cost effective manner with reduced material usage and simplified manufacturing processes. In
20 addition, or alternatively, secondary packaging 100 may be formed to display the article contained therein in a visually appealing manner. For instance, secondary packaging may be formed to maximize visibility of the article, and / or may be formed with components that complement, enhance, or highlight the form of the article therein. In accordance with principles of the present invention, a secondary packaging that is environmentally
25 sustainable yet also elegant may be formed.

[0045] While the foregoing description and drawings represent exemplary embodiments of the present invention, it will be understood that various additions, modifications and substitutions may be made therein without departing from the spirit and scope of the present invention. In particular, it will be clear to those skilled in the art
30 that the present invention may be embodied in other specific forms, structures, arrangements, proportions, and with other elements, materials, and components, without

departing from the spirit or essential characteristics thereof. One skilled in the art will appreciate that the invention may be used with many modifications of structure, arrangement, proportions, materials, and components and otherwise, used in the practice of the invention, which are particularly adapted to specific environments and operative requirements without departing from the principles of the present invention. It will further be appreciated that the directional references “front,” “back,” “left,” “right,” “top,” and “bottom” merely serve to distinguish sides from one another without limiting such sides to specific orientations. The presently disclosed embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims, and not limited to the foregoing description.

WHAT IS CLAIMED IS:

1 1. Secondary packaging adapted to contain and to display an article of a
2 predetermined size and shape, said secondary packaging having a front side, a back side
3 opposite said front side, a first side extending between said front and back sides, a second
4 side opposite said first side and extending between said front and back sides, a third side
5 and a fourth side opposite each other and extending between said front side, said back
6 side, said first side, and said second side, said secondary packaging comprising:
7 an article-holding component having a front side positioned along said secondary
8 packaging front side, a back side positioned along said secondary packaging back
9 side, a first side positioned along said secondary packaging first side, and a
10 second side positioned along said secondary packaging second side; and
11 a cover element in the form of a flexible sheet;
12 wherein:
13 an article well is formed in said front side of said article-holding component;
14 said article-holding component has a first side wall along said first side thereof and a
15 second side wall along said second side thereof, said first side wall and said
16 second side wall having peripheral edges forming non-rectangular shapes; and
17 said cover element is flexibly rested on said peripheral edges of said first side wall
18 and second side wall to cover said article well and to follow the non-rectangular
19 shape of said peripheral edges of said first side wall and second side wall to result
20 in a secondary packaging with a front side, defined by said cover element, that is
21 not flat and which is not molded to conform to the shape of the article within said
22 secondary packaging.

1 2. Secondary packaging as in claim 1, wherein:
2 said article well has a front edge and is shaped and configured to hold only a back
3 portion of the article within said article well with a front portion of the article
4 projecting beyond said front edge of said article well; and
5 said cover element encloses the article within said article well without contacting the
6 article.

1 3. Secondary packaging as in claim 2, wherein:

2 said first side wall has a front face along said front side of said article-holding
3 component extending forwardly in a direction toward said front side of said
4 secondary packaging a distance selected to extend beyond the article when
5 positioned within said article well;

6 said second side wall has a front face along said front side of said article-holding
7 component extending forwardly in a direction toward said front side of said
8 secondary packaging a distance selected to extend beyond the article when
9 positioned within said article well; and

10 said cover element is flexibly rested on said front faces of said first side wall and said
11 second side wall to follow the peripheral shape of at least said front faces of said
12 first side wall and said second side wall to result in a secondary packaging with a
13 front face, defined by said cover element, that is not flat and which does not
14 conform to the shape of the article within the secondary packaging.

1 4. Secondary packaging as in claim 1, wherein said first side wall and said second
2 side wall each have at least one curved side along the periphery thereof so that said cover
3 element is curved.

1 5. Secondary packaging as in claim 4, wherein:

2 said first side wall and said second side wall each have a front side along said front
3 side of said article-holding component and a third side along said third side of
4 said article-holding component; and

5 said front side and said third side of said left and right side walls are curved to form a
6 continuously curved side so that said cover element is curved along said front side
7 and said third side of said secondary packaging.

1 6. Secondary packaging as in claim 1, wherein said article holding component is a
2 molded article tray.

1 7. Secondary packaging as in claim 1, wherein said cover element is wrapped
2 around said article holding element about a single axis leaving said first side and said

3 second side of said article holding element free from being covered by said cover
4 element.

1 8. Secondary packaging as in claim 7, wherein said first side wall and said second
2 side wall close said first side and said second side of said article holding element not
3 covered by said cover element so that said article well is completely enclosed by said
4 cover element, said first side wall, and said second side wall alone.

1 9. Secondary packaging as in claim 1, wherein only said first side wall and said
2 second side wall of said article-holding component extend forwardly toward said front
3 side of said article-holding component sufficiently to extend beyond the predetermined
4 article when positioned within said article well.

1 10. Secondary packaging adapted to contain and to display an article of a
2 predetermined size and shape, said secondary packaging further comprising:
3 a molded article-displaying component having a front side with an article well formed
4 therein, and a back side opposite said front side; and
5 an at least partially transparent sheet wrapped only about a single axis to cover at
6 least said article well and to leave sides of said article-displaying component at
7 opposite ends of said single axis and intersecting said single axis exposed and not
8 covered by said sheet, thereby leaving open ends of said secondary packaging at
9 opposite ends of said single axis;

10 wherein:

11 said sides of said article-displaying component at opposite ends of said single axis
12 and intersecting said single axis and exposed and not covered by said sheet are
13 shaped and configured to close the open ends of said secondary packaging so that
14 said sheet and said article-displaying component sides together enclose said
15 article well with said at least partially transparent sheet spaced apart from the
16 predetermined article when held within said article well; and
17 said article-displaying component is formed at least partially from an at least partially
18 transparent material such that an article displayed within said article well is
19 viewable from at least two viewing directions without visual obstruction through

20 at least one of said article-displaying component and said at least partially
21 transparent sheet.

1 11. Secondary packaging as in claim 10, wherein:
2 at least a portion of said secondary packaging is configured as a bottom side to
3 support said secondary packaging in a stable manner when said bottom side of
4 said secondary packaging is rested on a support surface; and
5 said article well is spaced above and transverse to said bottom side of said secondary
6 packaging to hold the article above the support surface on which said secondary
7 packaging is placed;
8 whereby said secondary packaging displays an article in a manner which causes the
9 article to appear to be floating within said secondary packaging.

1 12. Secondary packaging as in claim 10, wherein said article-displaying component is
2 formed by one of vacuum forming, thermoforming, cold forming, and molding.

1 13. Secondary packaging as in claim 10, wherein said article well is formed to
2 maintain a predetermined shape corresponding to the article to be held therein before the
3 article is inserted therein.

1 14. Secondary packaging as in claim 10, wherein:
2 said secondary packaging has at least two walls angled with respect to each other at at
3 most a right angle to form a corner;
4 said at least partially transparent sheet covers said at least two walls; and
5 said at least partially transparent sheet is creased along a weakening line to be folded
6 about said corner.

1 15. Secondary packaging according to claim 10, wherein said transparent sheet is a
2 single component element.

1 16. Secondary packaging as in claim 10, further comprising a partial carton formed at
2 least partially of an opaque material and configured to enclose only a portion of said
3 article-displaying component while leaving at least a part of said article-displaying

4 component unenclosed so that the article remains viewable without visual obstruction
5 from said at least two viewing directions;

6 wherein said transparent sheet is wrapped around both said article-displaying
7 component and said partial carton.

1 17. Secondary packaging as in claim 16, wherein:

2 said article displaying component includes at least one additional compartment
3 configured for storing elements in addition to the article; and
4 said at least one additional compartment is covered by said partial carton.

1 18. Secondary packaging as in claim 10, wherein:

2 said article well has a front end;

3 said sides of said article-displaying component at opposite ends of said single axis
4 and intersecting said single axis have forward-facing sides extending in a
5 direction toward said front side of said article-displaying component and beyond
6 said front end of said article well a distance determined to extend beyond the
7 predetermined article when held in said article well; and

8 said at least partially transparent sheet is rested on said front-facing surfaces of said
9 sides of said article-displaying component at opposite ends of said single axis and
10 intersecting said single axis such that said at least partially transparent sheet is
11 spaced apart from the predetermined article when held in said article well.

1 19. Secondary packaging as in claim 10, wherein:

2 said at least partially transparent sheet completely encircles said single axis and

3 together with said sides of said article-displaying component at opposite ends of
4 said single axis and intersecting said single axis close a space within said
5 secondary packaging sized to enclose the predetermined article within said article
6 well without contacting said at least partially transparent sheet; and

7 said at least partially transparent sheet and said article-displaying component are
8 sufficiently transparent to permit unimpeded viewing of the article within said
9 secondary packaging from at least two viewing directions.

1 20. Secondary packaging having a front side, a back side, a left side, a right side, a
2 top side, and a bottom side, said secondary packaging comprising:
3 an at least partially transparent article-displaying component with a front side, a back
4 side, a left side, a right side, a top side, and a bottom side, and having a
5 compartment configured to hold an article in place therein;
6 a partial carton formed at least partially of an opaque material and covering only a
7 portion of said at least partially transparent article-displaying component, leaving
8 at least a portion of said compartment uncovered for viewing from at least two
9 different viewing directions; and
10 a sheet, independent of and separate from said partial carton, covering at least a
11 portion of said partial carton and said portion of said compartment uncovered by
12 said partial carton to enclose said compartment with an article therein, said sheet
13 being transparent at least over a portion of said uncovered portion of said
14 compartment to permit viewing of said compartment from at least two different
15 viewing directions from outside said secondary packaging;
16 wherein:
17 at least two sides of said article-displaying component are at least partially
18 unobstructed by said partial carton and said transparency of said article displaying
19 component; and
20 said sheet and the positioning of said sheet over said compartment permit viewing of
21 an article within said compartment from at least two different viewing directions.

1 21. Secondary packaging as in claim 20, wherein said article-displaying component is
2 a transparent molded element having at least one compartment molded into a
3 predetermined form corresponding to an article to be held therein, said at least one
4 compartment maintaining said predetermined form when the article is not contained
5 therein.

1 22. Secondary packaging as in claim 20, wherein:
2 said partial carton encloses no more than a portion of said front side and no more than
3 a portion of at least one of said back side, said left side, said right side, and said

4 top side of said article-displaying component, leaving at least a portion of said
5 front side and at least a portion of one of said back side, said left side, said right
6 side, and said top side unobstructed for viewing of an article in said compartment.

1 23. Secondary packaging as in claim 20, wherein said at least partially transparent
2 sheet encloses said article-displaying component and said partial carton leaving said left
3 side and said right side not covered by said at least partially transparent sheet.

1 24. Secondary packaging as in claim 20, wherein said at least partially transparent
2 sheet interlocks with said partial carton to impede relative sliding of said at least partially
3 transparent sheet and said partial carton to impede access to an article in said article-
4 displaying component.

1 25. Secondary packaging as in claim 20, wherein:
2 said article-displaying component is positioned within said partial carton with a
3 portion extending outside said partial carton; and
4 said article-displaying component has transparent portions at least in areas adjacent
5 the article to be held in said compartment therein.

1 26. Secondary packaging as in claim 20, wherein:

2 said partial carton has:

3 a bottom end having a front edge, a back edge opposite said front edge, a left
4 side edge extending between said front edge and said back edge, and a
5 right side edge opposite said left side edge and extending between said
6 front edge and said back edge;

7 a front wall extending upwardly from said bottom side front edge;

8 a back wall extending upwardly from said bottom side back edge;

9 a left side wall extending upwardly from said bottom side left side edge;

10 a right side wall extending upwardly from said bottom side right side edge;

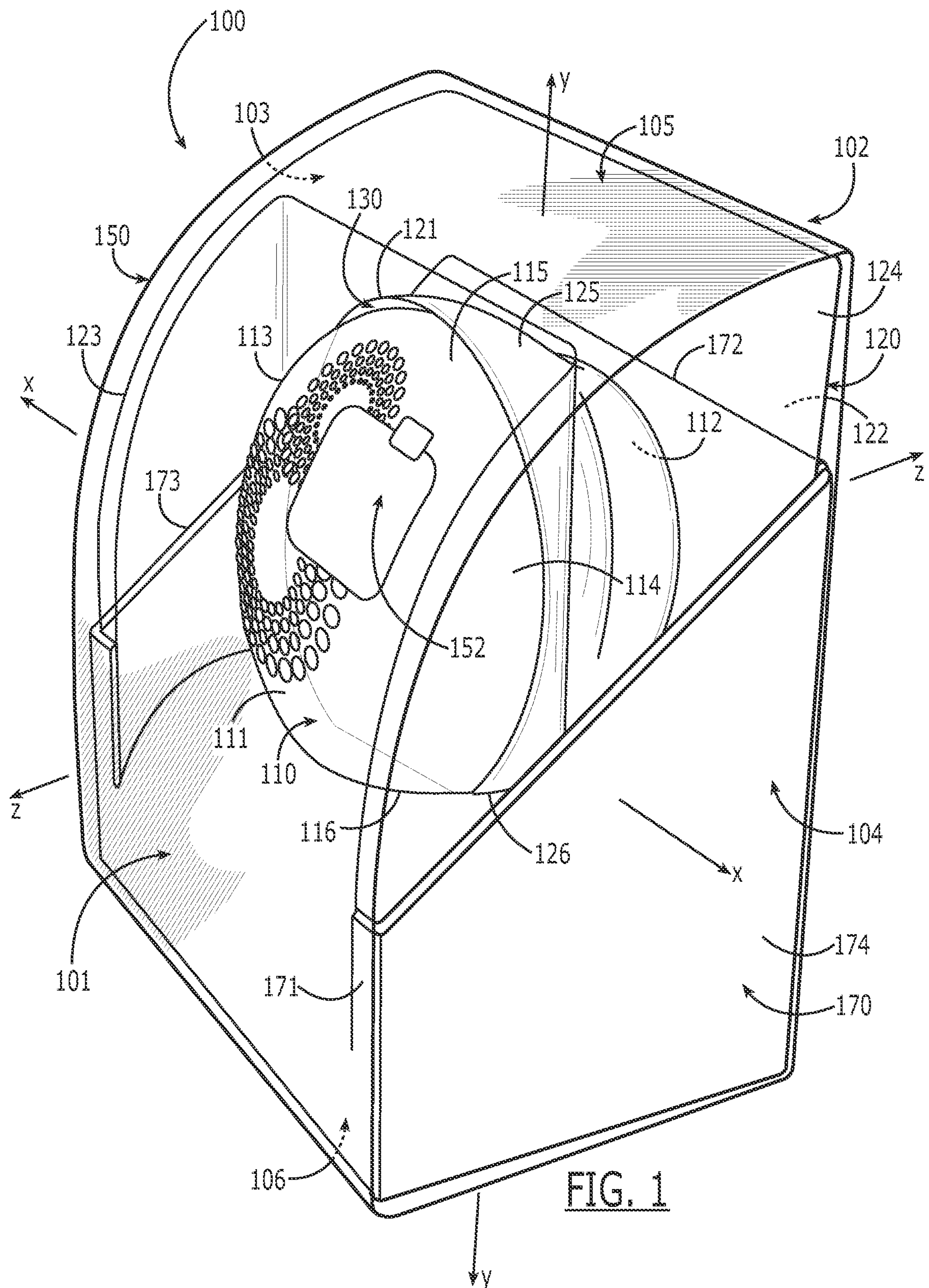
11 and

12 an open top end opposite said bottom end;

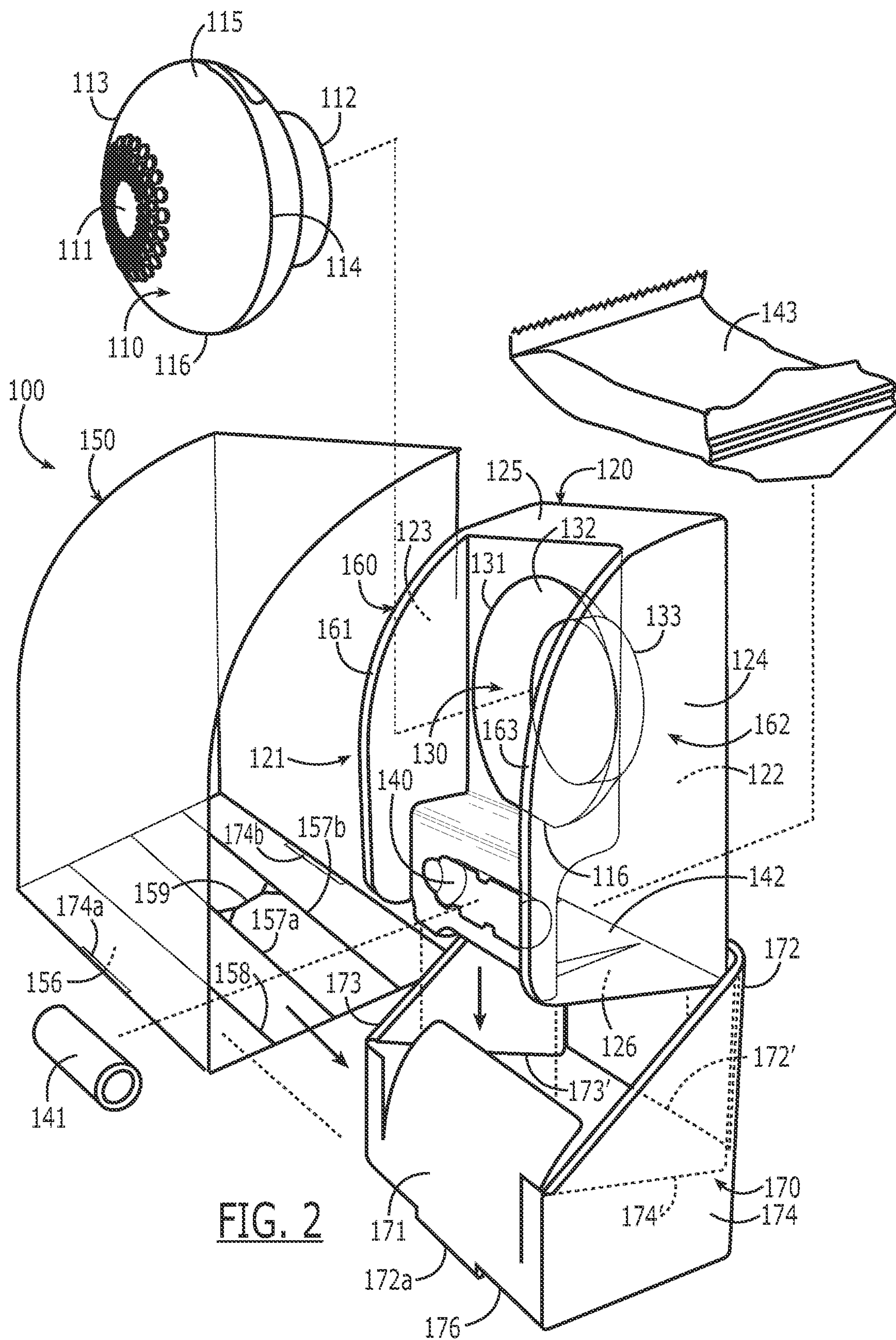
13 said article-displaying component is positioned within said partial carton and extends
14 partially above said front wall, said back wall, said left side wall, and said right
15 side wall of said partial carton through the open top end of said partial carton;
16 said article well faces and extends along at least said front wall of said partial carton;
17 and
18 said at least partially transparent sheet covers at least said front wall of said partial
19 carton and said article well.

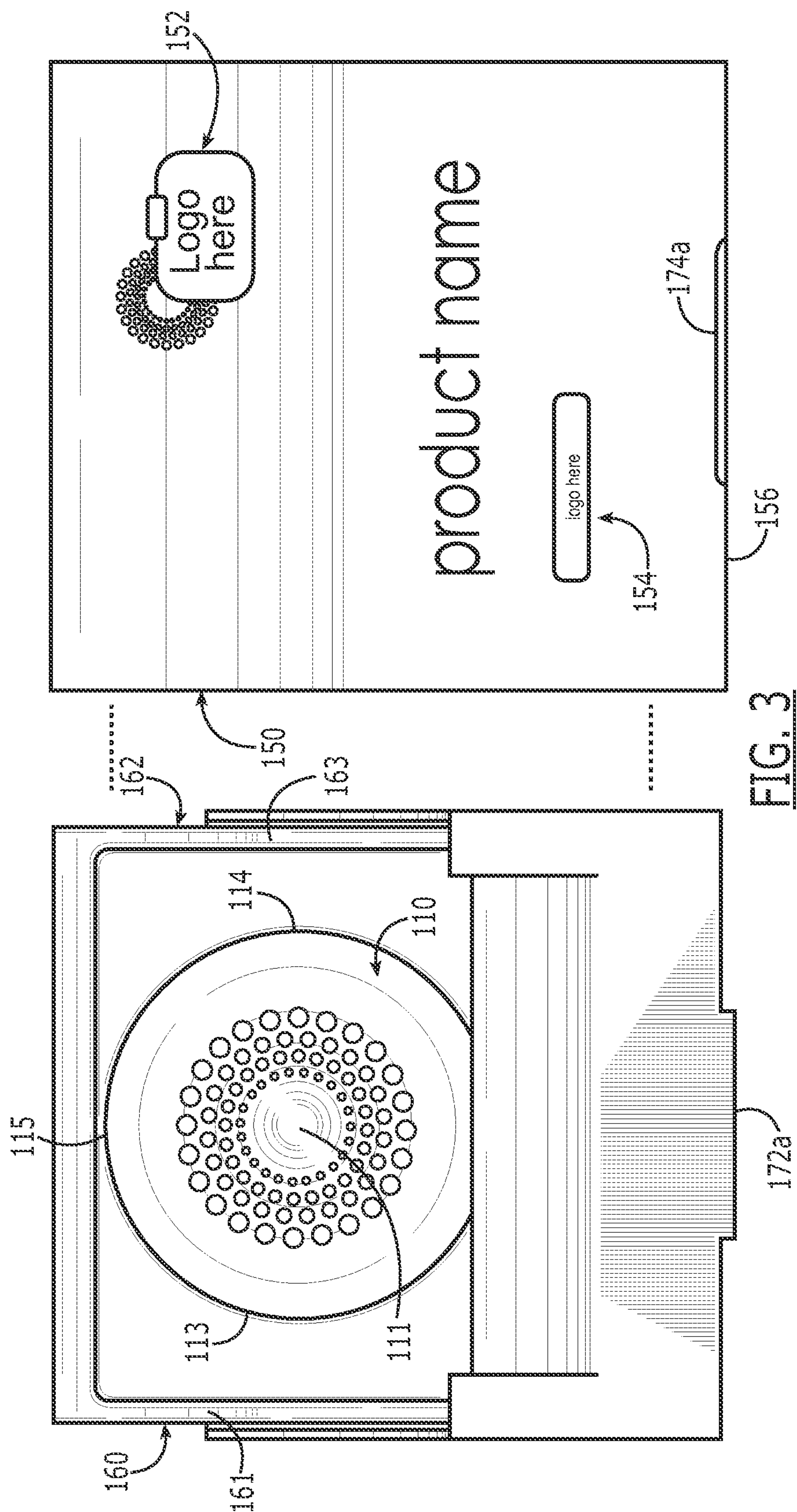
1 27. Secondary packaging as in claim 26, wherein said front wall of said partial carton
2 is configured to be curved towards said article well so that said front wall of said partial
3 carton may be tucked under an article held in said article well.

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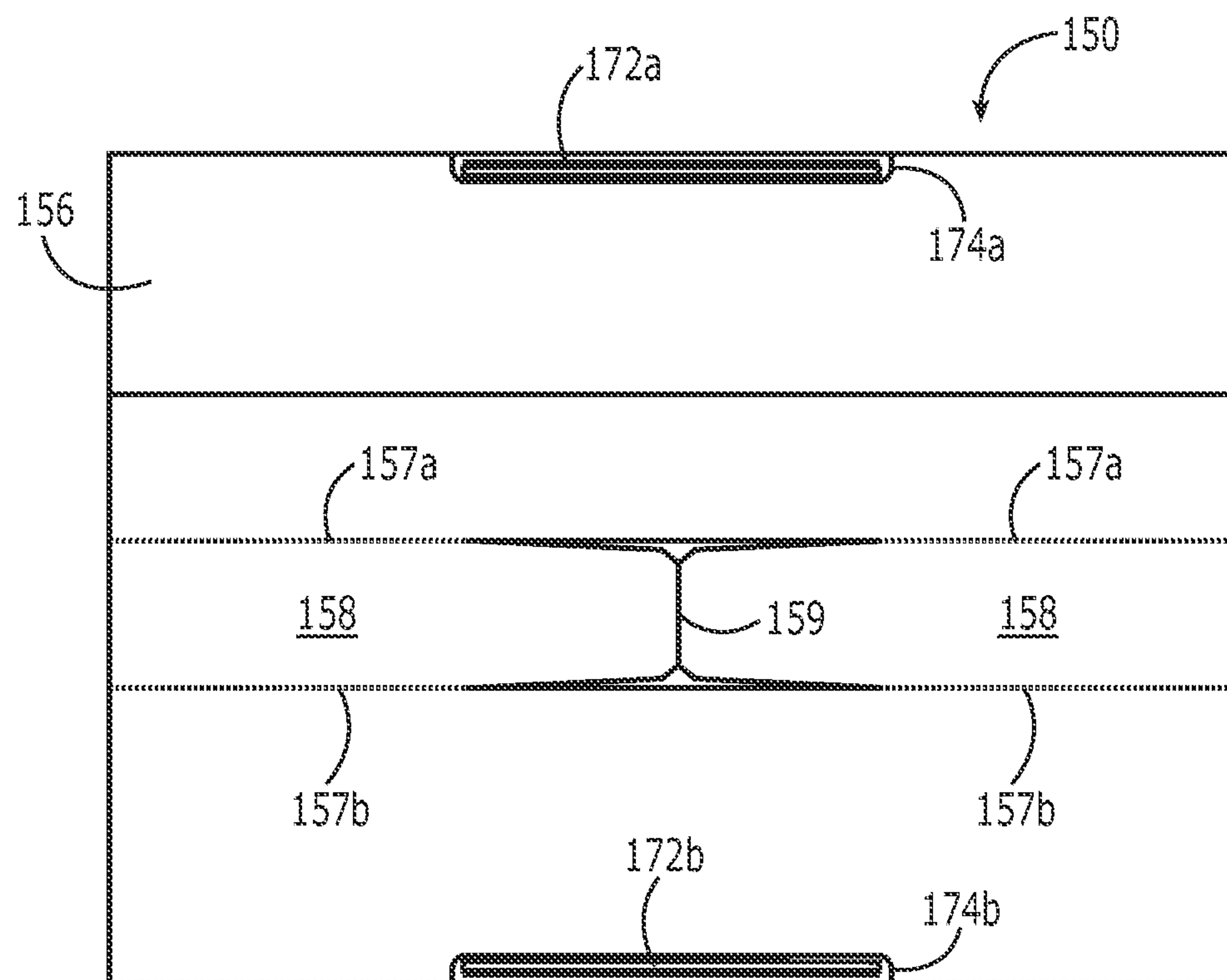


FIG. 4

