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[Continued on next page]

(54) **Title:** CONTAINER ASSEMBLY FOR SHIPPING A PRODUCT AND METHOD OF FORMING THE SAME

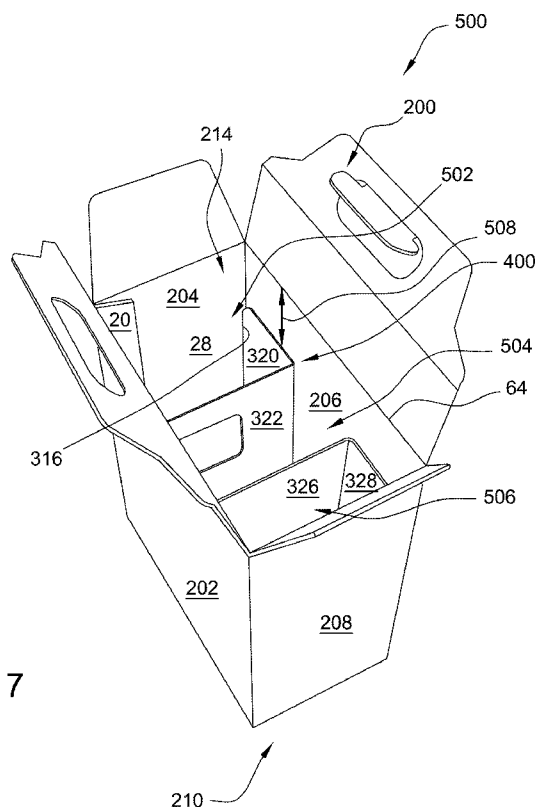


FIG. 7

(57) **Abstract:** A container assembly is provided. The assembly includes a carrier portion (200) including a plurality of side walls and a bottom wall, wherein the side walls and the bottom wall at least partially define a cavity of the carrier portion. The assembly also includes an internal divider insert (400) including two opposing side edges, fold lines that define minor divider panels, and a cut line (352, 354) defined in at least one of the minor divider panels to define a securing tab (340, 346) positioned between the two side edges. The minor divider panels are folded along the fold lines such that the securing tab moves outward from the cut line, and wherein the internal divider insert is positionable within the cavity of the carrier portion such that a carton insertion slot (502, 504, 506) is at least partially defined by the securing tab and at least one side wall of the carrier portion.



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CONTAINER ASSEMBLY FOR SHIPPING A PRODUCT AND METHOD OF FORMING THE SAME

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Application No. 62/155,969 filed May 1, 2015, entitled “CONTAINER ASSEMBLY WITH AN INTERNAL DIVIDER AND METHOD OF FORMING THE SAME”, which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] The field of the present disclosure relates generally to packaging containers for shipping a product and, more particularly, to a container assembly for storing and transporting one or more units of temperature-sensitive products.

[0003] Containers are frequently utilized to store and aid in transporting products. These containers can be square, hexagonal, or octagonal, for example. At least some known products stored or transported in the containers require temperature-controlled environments to prevent spoilage of the products during transportation and delivery of the products to a consumer. In particular, at least some pharmaceutical products may be required to be maintained in a temperature-controlled environment even during shipment of the products to a consumer. In at least some cases, such pharmaceutical products that require a temperature-controlled environment are shipped in several large, multi-layered containers. These known containers are generally bulky and heavy, which increases shipping costs and makes it difficult for patients to carry and gain access to the pharmaceutical products.

BRIEF DESCRIPTION

[0004] In one aspect, a blank assembly is provided. The assembly includes a first blank for forming a carrier portion. The first blank includes a plurality of side panels for forming side walls of the carrier portion, the plurality of side panels including at least a first, second, third, and fourth side panel, and a joining tab, wherein the plurality of side panels at least partially define a cavity of the carrier portion. The assembly also includes a second blank for forming an internal divider insert. The second blank includes two opposing side edges, a plurality of fold lines that define a plurality of minor divider panels, and a cut line defined in at least one of the minor divider panels to define a securing tab positioned between the two side edges. The plurality of minor divider panels are configured to fold about the plurality of fold

lines such that the securing tab moves outward from the cut line. When formed, the internal divider insert is positionable within the cavity of the carrier portion such that a carton insertion slot is at least partially defined by the securing tab and at least one side wall of the carrier portion.

[0005] In another aspect, a container assembly formed from a plurality of blanks of sheet material is provided. The assembly includes a carrier portion including a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the carrier portion. The assembly also includes an internal divider insert including two opposing side edges, a plurality of fold lines that define a plurality of minor divider panels, and a cut line defined in at least one of the minor divider panels to define a securing tab positioned between the two side edges. The plurality of minor divider panels are folded along the plurality of fold lines such that the securing tab moves outward from the cut line, and wherein the internal divider insert is positionable within the cavity of the carrier portion such that a carton insertion slot is at least partially defined by the securing tab and at least one side wall of the carrier portion.

[0006] In another aspect, a container assembly formed from a plurality of blanks of sheet material is provided. The container assembly includes a carrier portion including a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the carrier portion. The assembly also includes a shipping container portion including a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the shipping container portion. The shipping container portion also includes a plurality of thermal insulation panels positioned within the cavity of the shipping container portion, the plurality of thermal insulation panels defining a thermally insulating cavity sized to receive the carrier portion.

[0007] In yet another aspect, a method of forming a container assembly from a plurality of blanks of sheet material is provided. The method includes forming a carrier portion that includes a plurality of side panels for forming side walls of the carrier portion. The plurality of side panels include at least a first, second, third, and fourth side panel, and a joining tab, wherein the plurality of side panels at least partially define a cavity of the carrier portion. The method also includes forming an internal divider insert that includes two opposing side edges, a plurality of fold lines that define a plurality of minor divider panels, and a cut line defined in

at least one of the minor divider panels to define a securing tab positioned between the two side edges. The plurality of minor divider panels are folded along the plurality of fold lines such that the securing tab moves outward from the cut line. The method also includes positioning the internal divider insert within the cavity of the carrier portion such that a carton insertion slot is at least partially defined by the securing tab and at least one side wall of the carrier portion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is a top plan view of a first blank of sheet material for forming a carrier portion of an example container assembly.

[0009] FIG. 2 is a perspective view of the carrier portion formed from the first blank of sheet material shown in FIG. 1 in a shipping position.

[0010] FIG. 3 is a perspective view of the carrier portion formed from the first blank of sheet material shown in FIG. 1 in a carrying position.

[0011] FIG. 4 is an alternative perspective view of the carrier portion formed from the first blank of sheet material shown in FIG. 1 in the carrying position.

[0012] FIG. 5 is a top plan view of a second blank of sheet material for forming an internal divider insert that may be used with the container assembly.

[0013] FIG. 6 is a perspective view of the internal divider insert formed from the second blank of sheet material shown in FIG. 3.

[0014] FIG. 7 is a perspective view of an example carrier assembly including the internal divider insert shown in FIG. 6 positioned within the carrier portion shown in FIG. 2.

[0015] FIG. 8 is an alternative view of the carrier assembly shown in FIG. 7.

[0016] FIG. 9 is an enlarged perspective view of a portion of the carrier assembly shown in FIG. 8.

[0017] FIG. 10 is an alternative enlarged perspective view of a portion of the carrier assembly shown in FIG. 8.

[0018] FIG. 11 is a perspective view of the carrier assembly shown in FIG. 7 including example cartons loaded therein.

[0019] FIG. 12 is an exploded view of an example container assembly formed at least from the blanks shown in FIGS. 1 and 5.

[0020] FIG. 13 illustrates an example series of process steps for assembling the container assembly shown in FIG. 12.

[0021] FIG. 14 is a top plan view of a second blank of sheet material for forming another carrier portion of an example container assembly.

[0022] FIG. 15 is a top plan view of a third blank of sheet material for forming another carrier portion of an example container assembly.

[0023] FIG. 16 is a block diagram of an example patient environment.

DETAILED DESCRIPTION

[0024] The following detailed description illustrates the disclosure by way of example and not by way of limitation. The description enables one skilled in the art to make and use the disclosure, describes several embodiments, adaptations, variations, alternatives, and use of the disclosure, including what is presently believed to be the best mode of carrying out the disclosure.

[0025] A container assembly and blanks for constructing the same are described herein. More specifically, a container assembly, that may include an internal divider insert, and methods for forming the same are described herein. As described herein, the container assembly may include multiple embodiments. The resulting container is portable, provides shipping stability for products transported therein, and provides an efficient way to transport temperature-sensitive products. In addition, as described in greater detail below, the resulting container, which may be used to transport pharmaceutical products, also provides an adherence tracking system that enables a patient to track and manage the dates and times of taking the pharmaceutical products shipped in the container. It will also be apparent to those skilled in the art and guided by the teachings herein provided that the invention is likewise applicable to any storage container including, without limitation, a carton, a tray, a box, or a bin.

[0026] In one embodiment, the container assembly may be fabricated using at least one of a corrugated board and paperboard material. The container assembly, however, may be fabricated using any suitable material, and therefore is not limited to a specific type of material. In alternative embodiments, the container assembly is fabricated using cardboard, plastic,

and/or any suitable material known to those skilled in the art and guided by the teachings herein provided.

[0027] Embodiments of the present disclosure provide a container assembly that facilitates storing and/or transporting temperature-sensitive products, such as pharmaceutical products, such as a tumor necrosis factor (TNF) inhibiting anti-inflammatory drugs (e.g., adalimumab). More specifically, the container assembly includes a thermally insulated shipping container portion, a carrier portion sized for insertion within the shipping container portion, and, in some embodiments, an internal divider insert positionable within the carrier portion. The internal divider insert facilitates partitioning an internal cavity of the carrier portion into multiple carton insertion slots. Each carton insertion slot is sized to receive a single carton, which contains one or more doses of a pharmaceutical product, for example. As such, partitioning the internal cavity of the carrier portion with the internal divider insert enables a supplier to select the number of units to deliver to a patient in a single shipment while ensuring the units are secure within the carrier portion even though it may not be at full capacity. Moreover, once delivered, the carrier portion is easily portable and capable of being transferred directly from the shipping container portion to a refrigeration unit without having to remove the individual units from the carrier portion. In one embodiment, one or more side walls of the carrier portion may provide a location for an adherence tracking system, which may be configured to allow a patient to monitor and/or track a drug regimen (i.e., a time, a date, and/or a dosage amount taken). As described below, the adherence tracking system may be configured to communicate with a server system via a remote computing device, wherein the remote computing device includes a patient application stored thereon for enabling transmission of patient adherence data to the server system for storage and/or processing.

[0028] In another embodiment, the container assembly includes the thermally insulated shipping container portion and the carrier portion sized for insertion with the shipping container portion. However, in this embodiment, the container assembly does not include the internal divider insert. Rather, the carrier portion is sized to receive a single container of the pharmaceutical product. Thus, in this embodiment, the carrier portion is smaller than the other embodiment where the carrier portion is sized to receive the internal divider insert and up to three cartons of the product. Of course, the carrier portion could be sized to receive one or more cartons without the internal divider insert received therein.

[0029] In one embodiment, the container assembly and/or blanks may include at least one marking thereon including, without limitation, indicia that communicates the product, a manufacturer of the product, and/or a seller of the product. For example, the marking may include printed text that indicates a product's name and briefly describes the product, logos and/or trademarks that indicate a manufacturer and/or seller of the product, and/or designs and/or ornamentation that attract attention. In another embodiment, the container assembly is void of markings, such as, without limitation, indicia that communicates the product, a manufacturer of the product, and/or a seller of the product. Furthermore, the container assembly may have any suitable size, shape, and/or configuration (i.e., number of sides), whether such sizes, shapes, and/or configurations are described and/or illustrated herein. For example, in one embodiment, the container assembly includes a shape that provides functionality, such as a shape that facilitates transporting the container and/or a shape that facilitates stacking and/or arranging a plurality of containers.

[0030] Referring now to the drawings, FIG. 1 is a top plan (exterior) view of a first blank 10 of sheet material for forming a carrier portion of an example container assembly. In the example embodiment, first blank 10 has a first or exterior surface 12, and an opposing second or interior surface 14. Further, first blank 10 defines a leading edge 16 and an opposing trailing edge 18. Moreover, first blank 10 includes, from leading edge 16 to trailing edge 18, a joining tab 20, a first major side panel 22, a first minor side panel 24, a second major side panel 26, and a second minor side panel 28 coupled together along preformed, generally parallel fold lines 30, 32, 34, and 36, respectively. Major side panels 22 and 26 have a first width W_1 , and minor side panels 24 and 28 have a second width W_2 less than first width W_1 . However, it should be understood that the plurality of side panels can each have any suitable size, shape, and/or configuration that enables blank 10 and/or the carrier portion to function as described herein. Additionally, although major side panels 22 and 26 and minor side panels 24 and 28 are specifically referred to herein, it should be noted that major side panels 22 and 26 or minor side panels 24 and 28 can also be referred to as end panels or side walls.

[0031] First major side panel 22 extends from joining tab 20 along fold line 30, first minor side panel 24 extends from first major side panel 22 along fold line 32, second major side panel 26 extends from first minor side panel 24 along fold lines 34, and second minor side panel 28 extends from second major side panel 26 along fold line 36. Fold lines 30, 32, 34, and 36 as well as other fold lines and/or hinge lines described herein, may include any suitable

line of weakness and/or line of separation known to those skilled in the art and guided by the teachings herein provided.

[0032] First blank 10 includes a plurality of bottom panels and/or bottom flaps for forming a bottom wall of the carrier portion. For example, first major side panel 22 has a first bottom panel 38 extending therefrom along a fold line 40, first minor side panel 24 has a first bottom flap 42 extending therefrom along a fold line 44, second major side panel 26 has a second bottom panel 46 extending therefrom along a fold line 48, and second minor side panel 28 has a second bottom flap 50 extending therefrom along a fold line 52.

[0033] First blank 10 also includes a plurality of top panels and/or top flaps for forming a top wall of the carrier portion. For example, first major side panel 22 has a first top panel 54 extending therefrom along a fold line 56, first minor side panel 24 has a first top flap 58 extending therefrom along a fold line 60, second major side panel 26 has a second top panel 62 extending therefrom along a fold line 64, and second minor side panel 28 has a second top flap 66 extending therefrom along a fold line 68. Moreover, in one embodiment, first top panel 54 has a first handle panel 70 extending therefrom along a fold line 72, and second top panel 62 has a second handle panel 74 extending therefrom along a fold line 76. First handle panel 70 includes a handle cutout 78, and second handle panel 74 has a handle flap 80 defined therein by a partial cut line 82. As such, handle flap 80 remains coupled to second handle panel 74 along a fold line 84. One or more portions of handle panels 70 and 74 defining the respective cutouts may include features such as contours, grooves, and/or padding (e.g., gel-based, foam, or plastic) configured to provide a gripping surface.

[0034] In the example embodiment, first bottom panel 38 has a free edge 86 that defines a first locking tab 88, and second bottom panel 46 has a free edge 90 that defines a second locking tab 92. First and second locking tabs 88 and 92 facilitate forming an automatic bottom locking mechanism, which enables the container to be placed in a knocked-down flat position when bottom panels 38 and 46 move inside the cavity. More specifically, free edge 86 has a first angled edge portion 94, a first horizontal portion 96, and a second angled edge portion 98 that define a first locking notch 100. Similarly, free edge 90 has a third angled edge portion 102, a second horizontal portion 104, and a fourth angled edge portion 106 that define a second locking notch 108. As such, first locking tab 88 is sized for insertion within second locking notch 108, and second locking tab 92 is sized for insertion within first locking notch

100 when forming the bottom wall of the carrier portion. Alternatively, free edges 86 and 90 have any suitable configuration that enables blank 10 to function as described herein.

[0035] FIG. 2 is a perspective view of a carrier portion 200 of the example container assembly formed from first blank 10 of sheet material (shown in FIG. 1) in a shipping or erected position. In the example embodiment, carrier portion 200 has a first side wall 202, a second side wall 204, a third side wall 206, a fourth side wall 208, a bottom wall 210, and a top wall 212. Each of walls 202, 204, 206, 208, 210, and 212 define an interior cavity 214 (shown in FIG. 7) within carrier portion 200.

[0036] Carrier portion 200 is formed by folding first blank 10 along fold lines, perforation lines, and/or score lines. Specifically, side walls 202, 204, 206, and 208 are formed by rotating side panels 22, 24, 26, and 28 about fold lines 30, 32, 34, and 36. Joining tab 20 is then coupled to second minor side panel 28. Bottom wall 210 is formed by rotating bottom flaps 42 and 50 inwardly about fold lines 44 and 52, respectively, until bottom flaps 42 and 50 are substantially perpendicular to minor side panels 24 and 28. Bottom panels 38 and 46 are then rotated inwardly about fold lines 40 and 48, respectively, such that interior surfaces of bottom panels 38 and 46 couple to exterior surfaces 12 of bottom flaps 42 and 50. Moreover, first locking tab 88 is inserted within second locking notch 108, and second locking tab 92 is inserted within first locking notch 100 to form the bottom locking mechanism as bottom panels 38 and 46 are rotated inwardly.

[0037] Top wall 212 is formed by rotating top flaps 58 and 66 inwardly about fold lines 60 and 68, respectively, until top flaps 58 and 66 are substantially perpendicular to minor side panels 24 and 28. Top panels 54 and 62 are then rotated inwardly about fold lines 56 and 64, respectively, such that interior surfaces 14 of top panels 54 and 62 couple to exterior surfaces 12 of top flaps 58 and 66. More specifically, first top panel 54 is folded over second top panel 62 such that first handle panel 70 couples to second top panel 62. In one embodiment, first handle panel 70 is removably coupled to second top panel 62, e.g., with an adhesive and/or a hook and loop configuration to ensure carrier portion 200 remains in the shipping position during transport.

[0038] FIG. 3 is a perspective view of carrier portion 200 of the example container assembly in a carrying position, and FIG. 4 is an alternative perspective view of carrier portion 200 in the carrying position. In the example embodiment, top panels 54 and 62 are rotated outwardly about fold lines 56 and 64, respectively. Second handle panel 74 is then rotated

outwardly about fold line 76 such that second handle panel 74 couples to first handle panel 70 forming a handle 216 for the carrier portion. Handle 216 is further formed by rotating handle flap 80 about fold line 84, and inserting handle flap 80 within handle cutout 78. As such, handle flap 80 couples to exterior surface 12 of first handle panel 70 to ensure first and second handle panels 70 and 74 remain coupled to each other in the carrying position.

[0039] In some embodiments, shipping container portion 602 (shown in FIG. 12) may contain carrier portion 200, which may contain one or more of the same or different cartons of a pharmaceutical product (i.e., a medication). The medication may be intended for taking by a patient, and may be in any suitable form (e.g., pills, injectable liquid, transdermal patches, etc) and housed in any suitable vessels (e.g., vials, bottles, injectors, syringes, etc). As such, in one embodiment, a patient environment facilitates ensuring patient compliance with a treatment regimen. The patient environment may include a patient monitoring system that includes a remote device (i.e., a smart phone, a tablet, a wearable device, or a laptop), a patient application on the remote device, and a server system having a memory and a processor. Moreover, referring to FIG. 4, the patient environment includes a patient adherence system 218 associated with carrier portion 200. Patient adherence system 218 may include one or more markings containing identifying data associated with each medication dose. In one embodiment, the marking is a scannable marking such as, but not limited to, a quick response (QR) code and/or a bar code. In operation, the patient scans, with the remote device, the scannable marking associated with a medication dose that has been administered. The QR code or the bar code contains data, such as the type of medication taken, or a lot or batch number of the medication taken. Once the scannable marking has been scanned, the patient application transmits the data associated with the scannable marking to the server system. In one embodiment, the patient application transmits additional information with the data, such as a time stamp of when the QR code or bar code was scanned (i.e., when the medication was taken). The combined data may then be stored or processed in the server system, and can be used to schedule reminders for the patient to administer future doses of the medication. For example, in one embodiment, the reminders are sent to the patient via the patient application.

[0040] In another embodiment, the patient can take a picture of an identifying marking associated with the medication dose that has been taken, and the picture can be transmitted to the server system via the patient application on the remote device. Alternatively, the patient application can have a user interface that enables the patient to manually input identifying

information associated with the medication dose that has been taken. The identifying information can then be transmitted to the server system.

[0041] Referring again to FIG. 4, in the example embodiment, patient adherence system 218 includes a label/markings 220 on exterior surface 12 of side wall 204 to facilitate providing reminders to the patient when label/markings 220 is in view. More specifically, patient adherence system 218 is positioned such that label/markings 220 is easily viewable while carrier portion 200 is in storage within the patient's refrigerator, for example. Label/markings 220 can take many forms to facilitate patient compliance with a treatment regimen, as will be described in more detail below. For example, in one embodiment, label/markings 220 provides an area for a patient to manually record dates in which medication doses have been administered. In another embodiment, label/markings 220 is embodied as a calendar, which enables a patient to manually mark dates in which medication doses have been administered. Alternatively, label/markings 220 includes preformed punchout portions (not shown) in side wall 204. More specifically, the punchout portions are selectively removable from side wall 204 and may be associated with the calendar to track when medication doses have been administered. In another embodiment, patient adherence system 218 includes a transferable label (not shown) associated with each medication dose. The transferable label is selectively removable from the packaging of each medication dose for application to side wall 204. As such, the transferable label is easily viewable on exterior surface 12 of carrier portion 200.

[0042] It should be understood that while discussed as standalone embodiments, features of the patient computing environment described above can be used either alone, or in combination, to facilitate monitoring patient compliance with a treatment regimen.

[0043] FIG. 5 is a top plan (exterior) view of a second blank 300 of sheet material for forming an internal divider insert that may be used with the example container assembly. In the example embodiment, second blank 300 has a first or exterior surface 312, and an opposing second or interior surface 314. Further, second blank 300 defines a first side or leading edge 316 and an opposing side or trailing edge 318. Moreover, second blank 300 has, from leading edge 316 to trailing edge 318, a first minor divider panel 320, a second minor divider panel 322, a third minor divider panel 324, a fourth minor divider panel 326, and a fifth minor divider panel 328 coupled together along preformed, generally parallel fold lines 330, 332, 334, and 336, respectively. First and fifth minor divider panels 320 and 328 have a third width

W_3 , third minor divider panel 324 has a fourth width W_4 greater than or equal to third width W_3 , and second and fourth minor divider panels 322 and 326 have a fifth width W_5 greater than fourth with W_4 . However, it should be understood that the plurality of minor divider panels can each have any suitable size, shape, and/or configuration that enables blank 300 and/or the internal divider insert to function as described herein. Moreover, alternatively, second blank 300 can include any number of minor divider panels that enables the internal divider insert to function as described herein.

[0044] Second minor divider panel 322 extends from first minor divider panel 320 along fold line 330, third minor divider panel 324 extends from second minor divider panel 322 along fold line 332, fourth minor divider panel 326 extends from third minor divider panel 324 along fold line 334, and fifth minor divider panel 328 extends from fourth minor divider panel 326 along fold line 336. Fold lines 330, 332, 334, and 336 as well as other fold lines and/or hinge lines described herein, may include any suitable line of weakness and/or line of separation known to those skilled in the art and guided by the teachings herein provided.

[0045] In the example embodiment, a first cut line 338 is defined in second minor divider panel 322 to define a first securing tab 340 that extends from a first edge 342 of third minor divider panel 324, and a second cut line 344 is defined in fourth minor divider panel 326 to define a second securing tab 346 that extends from an opposing second edge 348 of third minor divider panel 324. First securing tab 340 has a first side edge 352, and second securing tab 346 has a second side edge 354. First securing tab 340 is positioned a first distance from a top edge 350 of second blank 300, and second securing tab 346 is positioned a greater second distance from top edge 350 than first securing tab 340. Moreover, first and second securing tabs 340 and 346 have a length L_1 substantially equal to width W_3 of first and fifth minor divider panels 320 and 328. As will be described in more detail below, securing tabs 340 and 346 and minor divider panels 320 and 328 at least partially define rectangular container slots, and having length L_1 substantially equal to width W_3 facilitates ensuring the internal divider insert remains securely positioned within carrier portion 200.

[0046] FIG. 6 is a perspective view of an internal divider insert 400 formed (in erected position) from second blank 300 of sheet material (shown in FIG. 6). In the example embodiment, internal divider insert 400 is formed by folding minor divider panels 320, 322, 324, 326, and 328 about fold lines 330, 332, 334, and 336 in a serpentine pattern. More specifically, second minor divider panel 322 is rotated outwardly about fold line 330 by about

90°, third minor divider panel 324 is rotated inwardly about fold line 332 by about 90°, fourth minor divider panel 326 is rotated inwardly about fold line 334 by about 90°, and fifth minor divider panel 328 is rotated outwardly about fold line 336 by about 90°. Folding minor divider panels 320, 322, 324, 326, and 328 about fold lines 330, 332, 334, and 336 in the serpentine pattern facilitates moving first and second securing tabs 340 and 346 outward from cut lines 338 and 334, respectively. As such, first securing tab 340 is substantially parallel with first minor divider panel 320, and second securing tab 346 is substantially parallel with fifth minor divider panel 328. Moreover, second minor divider panel 322 extends substantially perpendicularly from first securing tab 340, and fourth minor divider panel 326 extends substantially perpendicularly from second securing tab 346.

[0047] FIG. 7 is a perspective view of an example carrier assembly 500, FIG. 8 is an alternative view of carrier assembly 500, FIG. 9 is an enlarged perspective view of a portion of carrier assembly 500, and FIG. 10 is an alternative enlarged perspective view of another portion of carrier assembly 500. In the example embodiment, carrier assembly 500 includes internal divider insert 400 positioned within internal cavity 214 of carrier portion 200. Internal divider insert 400 is positioned within internal cavity 214 of carrier portion 200 such that a plurality of carton insertion slots are defined therein. More specifically, a first carton insertion slot 502, a second carton insertion slot 504, and a third carton insertion slot 506 are defined within internal cavity 214. First carton insertion slot 502 is defined by side wall 204, first minor divider panel 320, second minor divider panel 322, and first securing tab 340. Second carton insertion slot 504 is defined by side wall 206 and minor dividing panels 322, 324, and 326. Third carton insertion slot 506 is defined by side wall 208, fourth minor divider panel 326, fifth minor divider panel 328, and second securing tab 346.

[0048] In one embodiment, a height of internal divider insert 400 is selected such that at least a portion of a carton positioned within one of the carton insertion slots protrudes beyond top edge 350. For example, internal divider insert 400 has a height such that a gap 508 is defined between top edge 350 and fold line 64 when internal divider insert 400 is coupled to bottom wall 210. As such, the height of internal divider insert 400 is selected to enable the portion of the carton protruding beyond top edge 350 to be easily grippable by a consumer.

[0049] Referring to FIG. 8-10, first and fifth minor divider panels 320 and 328 and first and second securing tabs 340 and 346 ensure internal divider insert 400 remains securely coupled within carrier portion 200. More specifically, internal divider insert 400 is folded in

the serpentine pattern such that first divider panel 320 extends along side wall 206 to couple side edge 316 to side wall 204, such that first securing tab 340 extends along side wall 202 to couple side edge 352 to joining tab 20, such that fifth divider panel 328 extends along side wall 206 to couple side edge 318 to side wall 208, and such that second securing tab 346 extends along side wall 202 to couple side edge 354 to side wall 208. As described above, length L_1 of securing tabs 340 and 346 are substantially equal to width W_3 of divider panels 320 and 328. As such, coupling side edges 316, 318, 352, and 354 to respective side walls 204, 208, and joining tab 20 facilitates maintaining the cross-sectional shape of carton insertion slots 502, 504, and 506.

[0050] FIG. 11 is a perspective view of carrier assembly 500 including example cartons 510 loaded therein. In the example embodiment, cartons 510 are inserted within first and third insertion slots 502 and 506. Moreover, widths W_3 , W_4 , and W_5 of minor divider panels 320, 322, 324, 326, and 328 are selected to ensure cartons 510 are securely positioned within insertion slots 502, 504, and 506. As such, damage to products contained within cartons 510 is reduced during shipment and transport thereof. In an alternative embodiment, internal divider insert 400 is omitted from carrier portion 200 such that a larger carton than cartons 510 can be positioned within internal cavity 214.

[0051] Moreover, carrier portion 200 is sized such that internal cavity 214 is capable of receiving one or more cartons 510 therein. As shown in FIG. 11, carrier portion 200 is sized such that internal cavity 214 is capable of receiving three cartons 510 therein. In an alternative embodiment, as shown in FIGS. 14 and 15, a carrier portion is sized to receive a single carton 510 therein, which enables internal divider insert 400 to be omitted from the carrier portion. In such an embodiment, the dimensions of a shipping container portion formed from blanks 800 and 900 (shown in FIGS. 14 and 15) are modified (i.e., reduced) correspondingly to ensure the carrier portion, without internal divider insert 400, is securely housed within the shipping container portion during transport.

[0052] FIG. 12 is an exploded view of an example container assembly 600 formed from at least the blanks 10 and 300 (shown in FIGS. 1 and 5). In the example embodiment, container assembly 600 includes a shipping container portion 602 sized to receive carrier assembly 500. More specifically, shipping container portion 602 has side walls 604 and a plurality of thermal insulation panels 606 disposed adjacent to side walls 604. Thermal insulation panels 606 define a thermally insulating cavity 608 sized to receive carrier assembly

500. Moreover, thermally insulating cavity 608 is sized such that when carrier assembly 500 is positioned therein, at least one cooling insert channel (not shown) is defined between carrier assembly 500 and thermal insulation panels 606. As such, a plurality of cooling inserts 610, such as ice packs, are positioned within the cooling insert channel to facilitate maintaining the temperature of temperature-products contained in cartons 510 (shown in FIG. 11) during shipment and transport. Container assembly 600 also has a protective insert 612 positioned between carrier assembly 500 and cooling inserts 610, a top thermal insulation panel 614, and a bottom thermal insulation panel 616. In the example embodiment, protective inserts 612 are formed from a laminated foam material having a thickness of at least about 0.25 inch (0.635 centimeter). Protective inserts 612 facilitate thermally insulating carrier portion 200, and facilitate protecting markings on carrier assembly 500 from erosive wear, such as from condensation forming on cooling inserts 610 when heated during transport. Moreover, thermal insulation panels 606, 614, and 616 are fabricated from a thermally insulating foam material having a thickness of at least about 1.0 inch (2.54 cm). In some examples, one or more of the thermal insulation panels, such as top thermal insulation panel 614, may include any suitable gripping features, such as notches, cutouts, tabs, and/or pulls to facilitate removal and access to carrier portion 500.

[0053] In the example embodiment, the materials and the dimensions of thermal insulation panels 606, 614, and 616 are selected to facilitate maintaining a temperature within thermally insulating cavity 608 within a predefined temperature range for a predetermined duration. More specifically, the materials and dimensions are selected such that the temperature within thermally insulating cavity 608 is maintained at a temperature below about 8°C and, more specifically, within a range between about 8°C and about 2°C, for a duration of at least about 48 hours to ensure the products contained within container portion 200 remain viable during shipping, for example.

[0054] For example, in one test run, container assembly 600 was formed and subjected to fluctuating ambient temperatures within a range between about 19°C and about -5°C for 48 hours. Over the course of the 48 hours, the temperature within thermally insulating cavity 608 was maintained within a range between about 8°C and about 3°C. In another test run, container assembly 600 was formed and subjected to fluctuating ambient temperatures within a range between about 10°C and about 31 °C for 48 hours. Over the course of the 48 hours, the temperature within thermally insulating cavity was maintained within a range between about 3°C and about 7°C.

[0055] FIG. 13 illustrates an exemplary series of process steps for assembling container assembly 600. In the example embodiment, container assembly 600 is assembled by positioning a plurality of cooling inserts 610 within thermally insulating cavity 608 in a first process step 702. Cooling inserts 610 are positioned on opposing sides of thermally insulating cavity 608 to facilitate evenly distributing cooling to carrier assembly 500 when inserted therein. Protective inserts 612 are positioned within thermally insulating cavity 608 and coupled to cooling inserts 610 in a second process step 704. Protective inserts 612 are spaced a distance from each other such that a carrier insertion slot 618 is defined therebetween. Carrier assembly 500 is positioned within thermally insulating cavity 608 and, more specifically, is inserted within carrier insertion slot 618 in a third process step 706. Finally, top thermal insulation panel 614 is inserted within shipping container portion 602 in a fourth process step 708 such that carrier assembly 500 is thermally insulated on all sides.

[0056] FIGS. 14 and 15 are top plan views of a second blank 800 and a third blank 900 of sheet material for forming carrier portions of an example container assembly. Second and third blanks 800 and 900 have a first or exterior surface 812, and an opposing second or interior surface 814. Further, second blank 800 defines a leading edge 816 and an opposing trailing edge 818. Moreover, second and third blanks 800 and 900 include, from leading edge 816 to trailing edge 818, a joining tab 820, a first major side panel 822, a first minor side panel 824, a second major side panel 826, and a second minor side panel 828 coupled together along preformed, generally parallel fold lines.

[0057] Second and third blanks 800 and 900 include a plurality of bottom panels and/or bottom flaps for forming a bottom wall of the carrier portion. For example, first major side panel 822 has a first bottom panel 838 extending therefrom, first minor side panel 824 has a first bottom flap 842 extending therefrom, second major side panel 826 has a second bottom panel 846 extending therefrom, and second minor side panel 828 has a second bottom flap 850 extending therefrom.

[0058] Second and third blanks 800 and 900 also include a plurality of top panels and/or top flaps for forming a top wall of the carrier portion. For example, first major side panel 822 has a first top panel 854 extending therefrom, first minor side panel 824 has a first top flap 858 extending therefrom, second major side panel 826 has a second top panel 862 extending therefrom, and second minor side panel 828 has a second top flap 866 extending therefrom. Moreover, in one embodiment, first top panel 854 has a first handle panel 870

extending therefrom, and second top panel 862 has a second handle panel 874 extending therefrom. Referring to FIG. 14, first handle panel 870 includes a handle cutout 878, and second handle panel 874 has a handle flap 880 defined therein by a partial cut line 882. As such, handle flap 880 remains coupled to second handle panel 874 along a fold line 884. In contrast, referring to FIG. 15, first handle panel 870 has a first handle cutout 978, and second handle panel 874 has a second handle cutout 980.

[0059] Blanks 800 and 900 form carrier portions sized to receive a single carton 510 therein, which enables internal divider insert 400 to be omitted from the carrier portion. As described above, the dimensions of blanks 800 and 900 are modified for receiving the single carton, as opposed to three cartons. For example, blanks 800 and 900 have substantially the same height as blank 10 (shown in FIG. 1), and major side panels 822 and 826 have a sixth width W_6 , and minor side panels 824 and 828 have second width W_2 less than sixth width W_6 . Sixth width W_6 is smaller than first width W_1 such that the carrier portions formed from blanks 800 and 900 securely house product-containing cartons during transport.

[0060] FIG. 16 is a block diagram of an example patient computing environment 1000 used in combination with carrier portion 200 for tracking patient adherence to a prescribed drug treatment regimen. In some embodiments, shipping container portion 602 (shown in FIG. 12) may contain carrier portion 200, which may contain one or more of the same or different cartons of a pharmaceutical product (i.e., a medication). The medication may be intended for taking by a patient, and may be in any suitable form (e.g., pills, injectable liquid, transdermal patches, etc) and housed in any suitable vessels (e.g., vials, bottles, injectors, syringes, etc). As such, in one embodiment, patient computing environment 1000 is configured to interact with and/or communicate with carrier portion 200 and facilitate ensuring patient compliance with a treatment regimen.

[0061] In the example embodiment, patient computing environment 1000 includes patient adherence system 218 and label/marking 220, which are associated with carrier portion 200 (shown in FIG. 4) and, in some embodiments, are included on carrier portion 200. Patient computing environment 1000 also includes a patient monitoring system 1002 for gathering and analyzing patient compliance data. More specifically, patient monitoring system 1002 includes a remote device 1004 (i.e., a smart phone, a tablet, a wearable device, or a laptop), a patient application 1006 installed on remote device 1004, and a server system 1008 having a memory and a processor (not shown).

[0062] As described above, patient adherence system 218 includes one or more labels/markings 220 that contain identifying data associated with each medication dose of the drug product shipped inside carrier portion 200. In one embodiment, label/marking 220 is a scannable marking such as, but not limited to, a quick response (QR) code and/or a bar code. In operation, the patient scans, with remote device 1004, the scannable label/marking 220 associated with a medication dose that is to be administered. The patient scans label/marking 220 each time the patient takes the medication dose. The QR code or the bar code contains data, such as the type of medication taken, or a lot or batch number of the medication taken. Patient application 1006 then transmits the data contained in the QR code or the bar code to server system 1008 for further analysis, as will be described in more detail below.

[0063] Alternatively, the patient can take a picture of an identifying marking associated with the medication dose that has been taken, and the picture can be transmitted to server system 1008 via patient application 1006 on remote device 1004. Alternatively, patient application 1006 can have a user interface that enables the patient to manually input identifying information associated with the medication dose that has been taken. The identifying information can then be transmitted to server system 1008.

[0064] The QR code or the bar code may also contain data relating to the patient that has taken the medication. The data may be de-identified data, which includes anonymized data that does not identify the particular patient for legal or other reasons, or may be identified data, which includes non-anonymized data that does identify the particular patient. For example, under national and/or regional patient privacy regulations such as the United States Health Insurance Portability and Accountability Act of 1996, only certain covered entities may be authorized to view identified patient protected health information (PHI) data.

[0065] Moreover, in some embodiments, server system 1008 may store user computing device identifiers, user identifiers, geographic identifiers associated with users, and transaction and shopping data associated with users, without including sensitive personal information, also known as personally identifiable information or PII, in order to ensure the privacy of individuals associated with the stored data. Personally identifiable information may include any information capable of identifying an individual. For privacy and security reasons, personally identifiable information may be withheld and only secondary identifiers may be used. For example, data received by server system 1008 may identify user "John Smith" as user "ZYX123" without any method of determining the actual name of user "ZYX123". In

some examples where privacy and security can otherwise be ensured (e.g., via encryption and storage security), or where individuals consent, personally identifiable information may be received and used by server system 1008. In such examples, personally identifiable information may be needed to reports about groups of users. In situations in which the systems discussed herein collect personal information about individuals, or may make use of such personal information, the individuals may be provided with an opportunity to control whether such information is collected or to control whether and/or how such information is used. In addition, certain data may be processed in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, an individual's identity may be processed so that no personally identifiable information can be determined for the individual, or an individual's geographic location may be generalized where location data is obtained (such as to a city, ZIP code, or state level), so that a particular location of an individual cannot be determined.

[0066] Once label/marking 220 has been scanned, patient application 1006 transmits the data associated with label/marking 220 to server system 1008. In one embodiment, the patient application transmits additional information with the data, such as a time stamp of when the QR code or bar code was scanned (i.e., when the medication was taken). The combined data may then be stored or processed in server system 1008, and can be used for one or more purposes. For example, the data may be used to schedule reminders for the patient to administer future doses of the medication. In one embodiment, the reminders are sent to the patient and received at patient application 1006.

[0067] Alternatively or additionally, the combined data is stored or processed in server system 1008 for analysis to determine an effect of adherence to a specified treatment regimen on patient health outcomes. For example, in one embodiment, server system 1008 receives patient health outcome data for patient's taking the medication. Server system 1008 then analyzes the patient health outcome data (i.e., the patient's response to treatment), analyzes the adherence data (e.g., the type of medication taken and the timeliness of when medication taken), and determines the effect of adherence to or deviation from the specified treatment regimen. For example, if deviation from the specified treatment regimen results in an adverse patient health outcome, the data stored within server system 1008 can be used to form a remedial treatment regimen.

[0068] This written description uses examples to disclose various implementations, including the best mode, and also to enable any person skilled in the art to practice the various implementations, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the disclosure is defined by the claims, and may include other examples that occur to those skilled in the art. Such other examples are intended to be within the scope of the claims if they have structural elements that do not differ from the literal language of the claims, or if they include equivalent structural elements with insubstantial differences from the literal language of the claims.

WHAT IS CLAIMED IS:

1. A blank assembly comprising:

a first blank for forming a carrier portion, the first blank comprising:

a plurality of side panels for forming side walls of the carrier portion, the plurality of side panels comprising at least a first, second, third, and fourth side panel, and a joining
5 tab, wherein the plurality of side panels at least partially define a cavity of the carrier portion;
and

a second blank for forming an internal divider insert, the second blank comprising:

two opposing side edges;

a plurality of fold lines that define a plurality of minor divider panels; and

10 a cut line defined in at least one of the minor divider panels to define a securing tab
positioned between the two side edges, wherein the plurality of minor divider panels are
configured to fold about the plurality of fold lines such that the securing tab moves outward
from the cut line,

wherein, when formed, the internal divider insert is positionable within the cavity
15 of the carrier portion such that a carton insertion slot is at least partially defined by the
securing tab and at least one side wall of the carrier portion.

2. The assembly in accordance with Claim 1, wherein the plurality of minor divider
panels comprises at least a first, second, third, fourth, and fifth minor divider panel coupled in
series along the plurality of fold lines.

3. The assembly in accordance with Claim 2 further comprising a first cut line defined
in the second minor divider panel to define a first securing tab that extends from a first edge
of the third minor divider panel, and a second cut line defined in the fourth minor divider
panel to define a second securing tab that extends from an opposing second edge of the third
5 minor divider panel.

4. The assembly in accordance with Claim 3, wherein the plurality of minor divider
panels are configured to fold along the plurality of fold lines in a serpentine pattern such that
the first securing tab is substantially parallel with the first minor divider panel, and such that
the second securing tab is substantially parallel with the fifth minor divider panel when the
5 internal divider insert is formed.

5. The assembly in accordance with Claim 3, wherein the plurality of minor divider panels are configured to fold along the plurality of fold lines in a serpentine pattern such that the second and fourth minor divider panels extend perpendicularly from the first and second securing tabs.

6. The assembly in accordance with Claim 3, wherein the first securing tab is positioned a first distance from a top edge of the second blank, and the second securing tab is positioned a greater second distance from the top edge of the second blank.

7. The assembly in accordance with Claim 1, wherein the first blank further comprises two opposing major top panels, each major top panel comprising a handle opening configured to substantially align when the major top panels couple to each other.

8. A container assembly formed from a plurality of blanks of sheet material, the container assembly comprising:

a carrier portion comprising a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the carrier portion; and

an internal divider insert comprising:

two opposing side edges;

a plurality of fold lines that define a plurality of minor divider panels; and

a cut line defined in at least one of the minor divider panels to define a securing tab positioned between the two side edges, wherein the plurality of minor divider panels are folded along the plurality of fold lines such that the securing tab moves outward from the cut line, and wherein the internal divider insert is positionable within the cavity of the carrier portion such that a carton insertion slot is at least partially defined by the securing tab and at least one side wall of the carrier portion.

9. The assembly in accordance with Claim 8, wherein the internal divider insert is folded along the plurality of fold lines such that the two side edges of the internal divider insert couple to opposing side walls of the carrier portion.

10. The assembly in accordance with Claim 9, wherein the internal divider insert is folded along the plurality of fold lines such that a side edge of the securing tab couples to at least one of the opposing side walls of the carrier portion.

11. The assembly in accordance with Claim 8, wherein the internal divider insert is folded along the plurality of fold lines in a serpentine pattern such that the at least one minor divider panel extends perpendicularly from the securing tab.

12. The assembly in accordance with Claim 8, wherein the plurality of minor divider panels comprises at least a first, second, third, fourth, and fifth minor divider panel coupled in series along the plurality of fold lines.

13. The assembly in accordance with Claim 12, wherein the internal divider insert comprises a first cut line defined in the second minor divider panel to define a first securing tab that extends from a first edge of the third minor divider panel, and a second cut line defined in the fourth minor divider panel to define a second securing tab that extends from an
5 opposing second edge of the third minor divider panel.

14. The assembly in accordance with Claim 12, wherein the internal divider insert is folded along the plurality of fold lines in a serpentine pattern such that a first carton insertion slot is at least partially defined between a first side wall of the carrier portion and the second minor divider panel, such that a second carton insertion slot is at least partially defined
5 between the second and fourth minor divider panels, and such that a third carton insertion slot is at least partially defined between a second opposing side wall and the fourth minor divider panel.

15. The assembly in accordance with Claim 8 further comprising a patient adherence system associated with the carrier portion, wherein the patient adherence system is configured to facilitate patient compliance with a treatment regimen.

16. The assembly in accordance with Claim 15, wherein the patient adherence system comprises a marking containing identifying data associated with a medication dosage.

17. The assembly in accordance with Claim 16, wherein the marking is a scannable marking containing the identifying data, wherein, when scanned, the identifying data is configured to be transmitted to a server system.

18. The assembly in accordance with Claim 8 further comprising a shipping container portion that comprises a plurality of thermal insulation panels that define a thermally insulating cavity sized to receive the carrier portion, wherein, when the carrier portion is

positioned within the thermally insulating cavity, at least one cooling insert channel extends
5 between the carrier portion and the plurality of thermal insulation panels.

19. A container assembly formed from a plurality of blanks of sheet material, the container assembly comprising:

a carrier portion comprising a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the carrier
5 portion; and

a shipping container portion comprising:

a plurality of side walls and a bottom wall, wherein the plurality of side walls and the bottom wall at least partially define a cavity of the shipping container portion; and

a plurality of thermal insulation panels positioned within the cavity of the shipping
10 container portion, the plurality of thermal insulation panels defining a thermally insulating cavity sized to receive the carrier portion.

20. The assembly in accordance with Claim 19, wherein the thermally insulating cavity is sized such that, when the carrier portion is positioned within the thermally insulating cavity, at least one cooling insert channel extends between the carrier portion and the plurality of thermal insulation panels.

21. The assembly in accordance with Claim 19, wherein the container portion further comprises two opposing major top walls, each major top wall comprising a handle opening configured to substantially align when the major top walls are folded outward and couple to each other.

22. The assembly in accordance with Claim 19 further comprising a patient adherence system associated with the carrier portion, wherein the patient adherence system is configured to facilitate patient compliance with a treatment regimen.

23. The assembly in accordance with Claim 22, wherein the patient adherence system comprises a marking containing identifying data associated with a medication dosage.

24. The assembly in accordance with Claim 23, wherein the marking is a scannable marking containing the identifying data, wherein, when scanned, the identifying data is configured to be transmitted to a server system.

25. A method of forming a container assembly from a plurality of blanks of sheet material, the method comprising:

forming a carrier portion that includes:

a plurality of side panels for forming side walls of the carrier portion, the plurality
5 of side panels comprising at least a first, second, third, and fourth side panel, and a joining
tab, wherein the plurality of side panels at least partially define a cavity of the carrier portion;
and

forming an internal divider insert that includes:

two opposing side edges;

10 a plurality of fold lines that define a plurality of minor divider panels; and

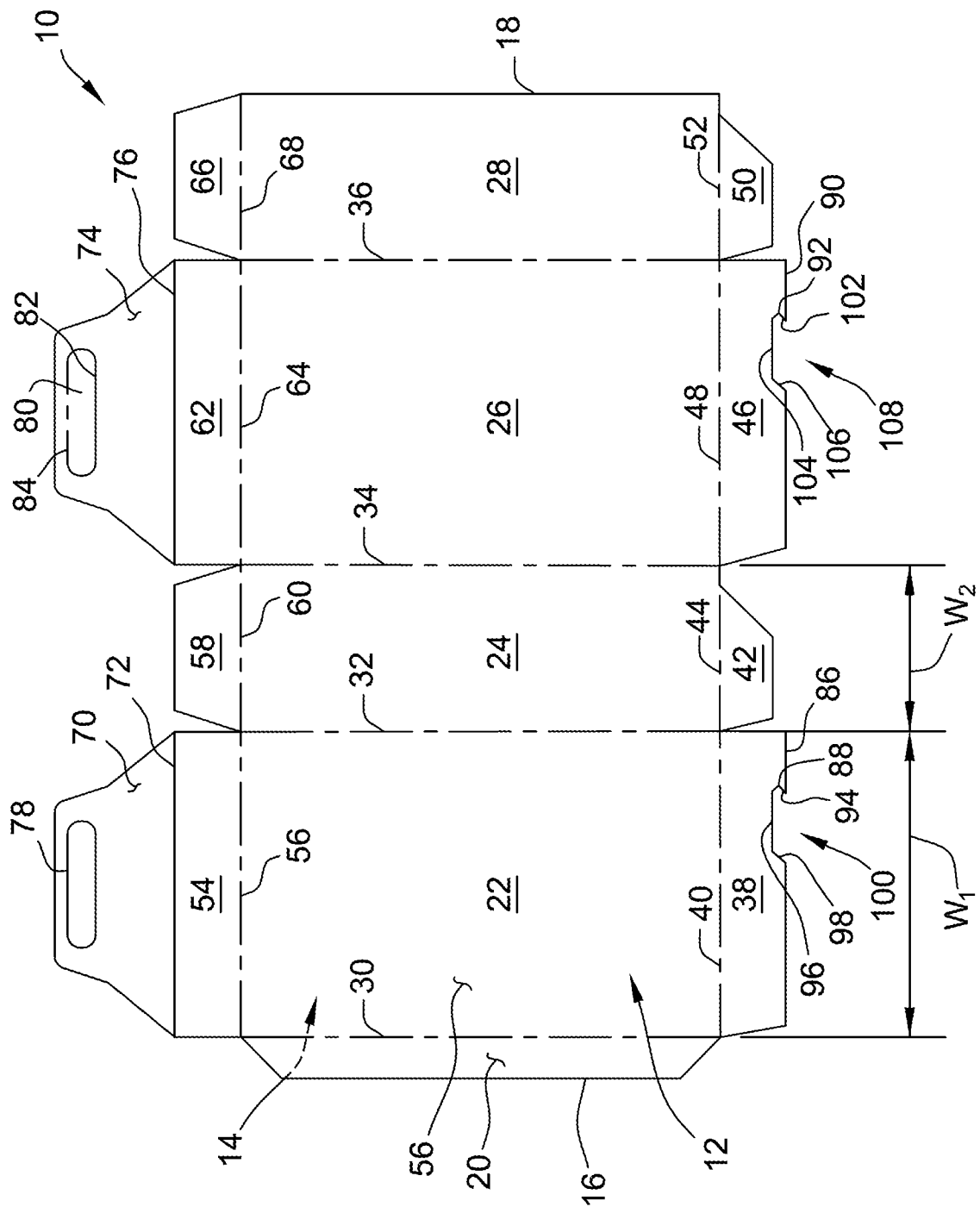
a cut line defined in at least one of the minor divider panels to define a securing tab
positioned between the two side edges, wherein the plurality of minor divider panels are
folded along the plurality of fold lines such that the securing tab moves outward from the cut
line; and

15 positioning the internal divider insert within the cavity of the carrier portion such that a
carton insertion slot is at least partially defined by the securing tab and at least one side wall
of the carrier portion.

26. The method in accordance with Claim 25, wherein positioning the internal divider
insert comprises coupling the two side edges of the internal divider insert to opposing side
walls of the carrier portion.

27. The method in accordance with Claim 26, wherein positioning the internal divider
insert comprises coupling the securing tab to at least one of the opposing side walls of the
carrier portion.

28. The method in accordance with Claim 25, wherein forming an internal divider
insert comprises folding the plurality of minor divider panels along the plurality of fold lines
such that at least a first, second, third, fourth, and fifth minor divider panel are coupled in
series along the plurality of fold lines.



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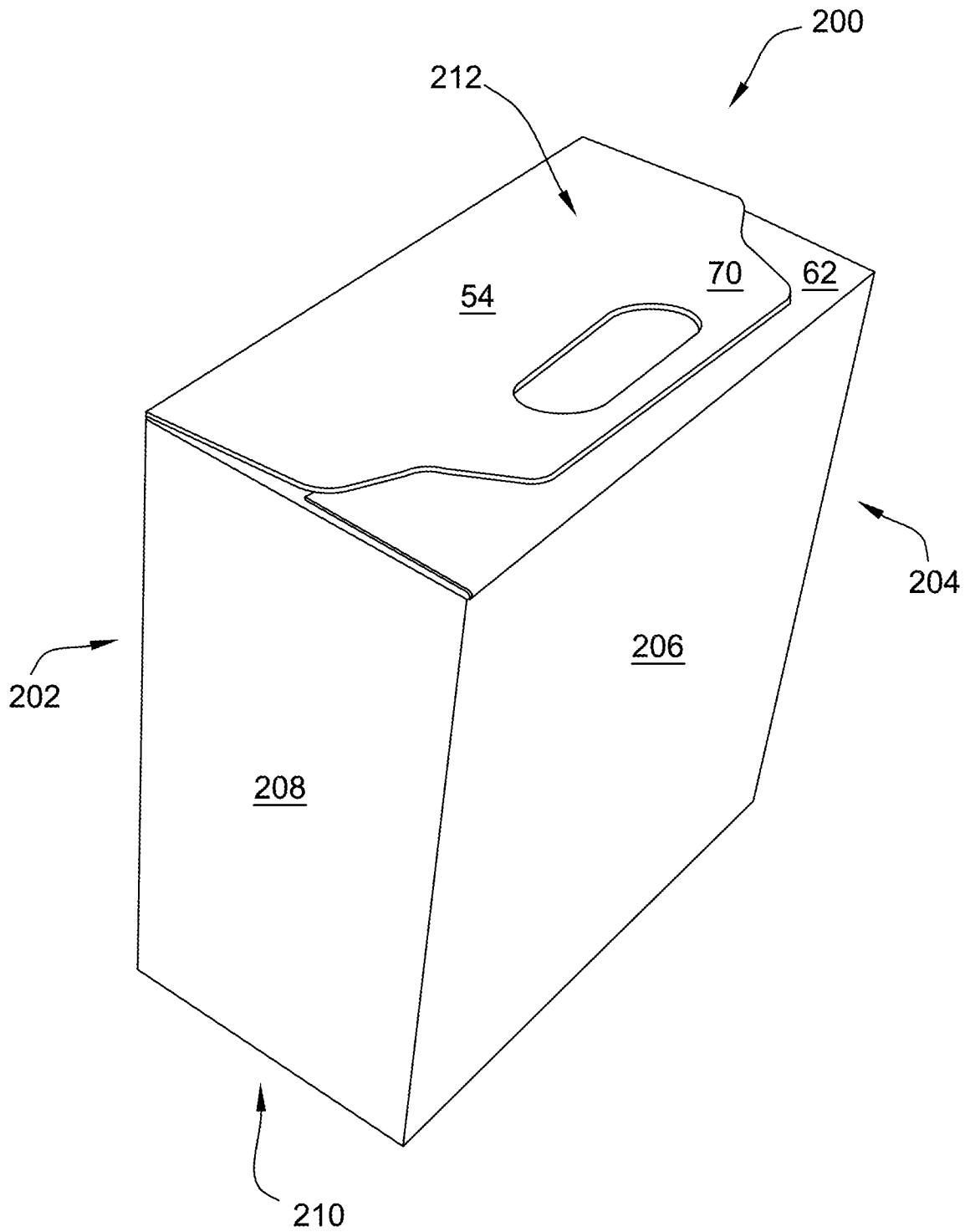


FIG. 2

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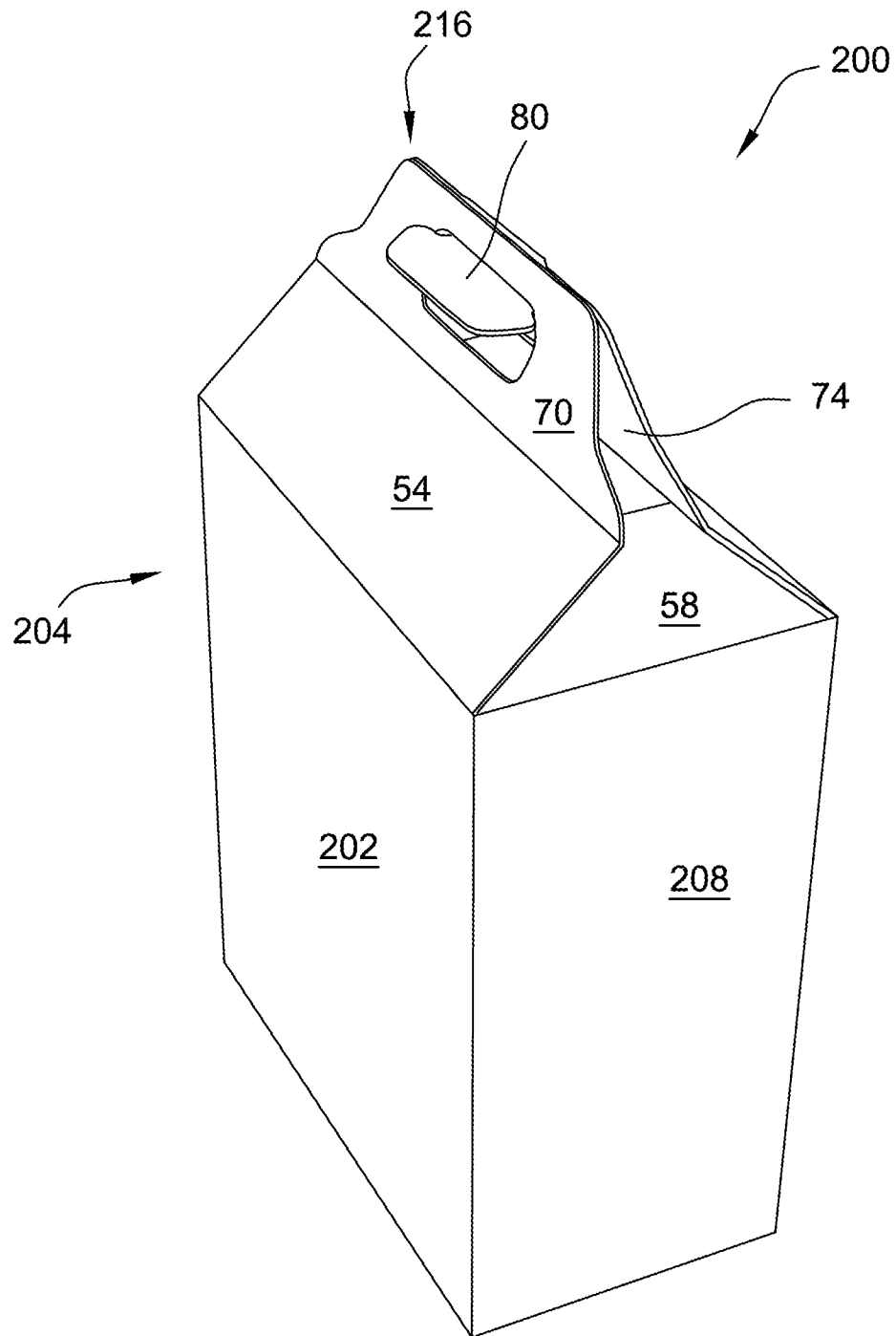


FIG. 3

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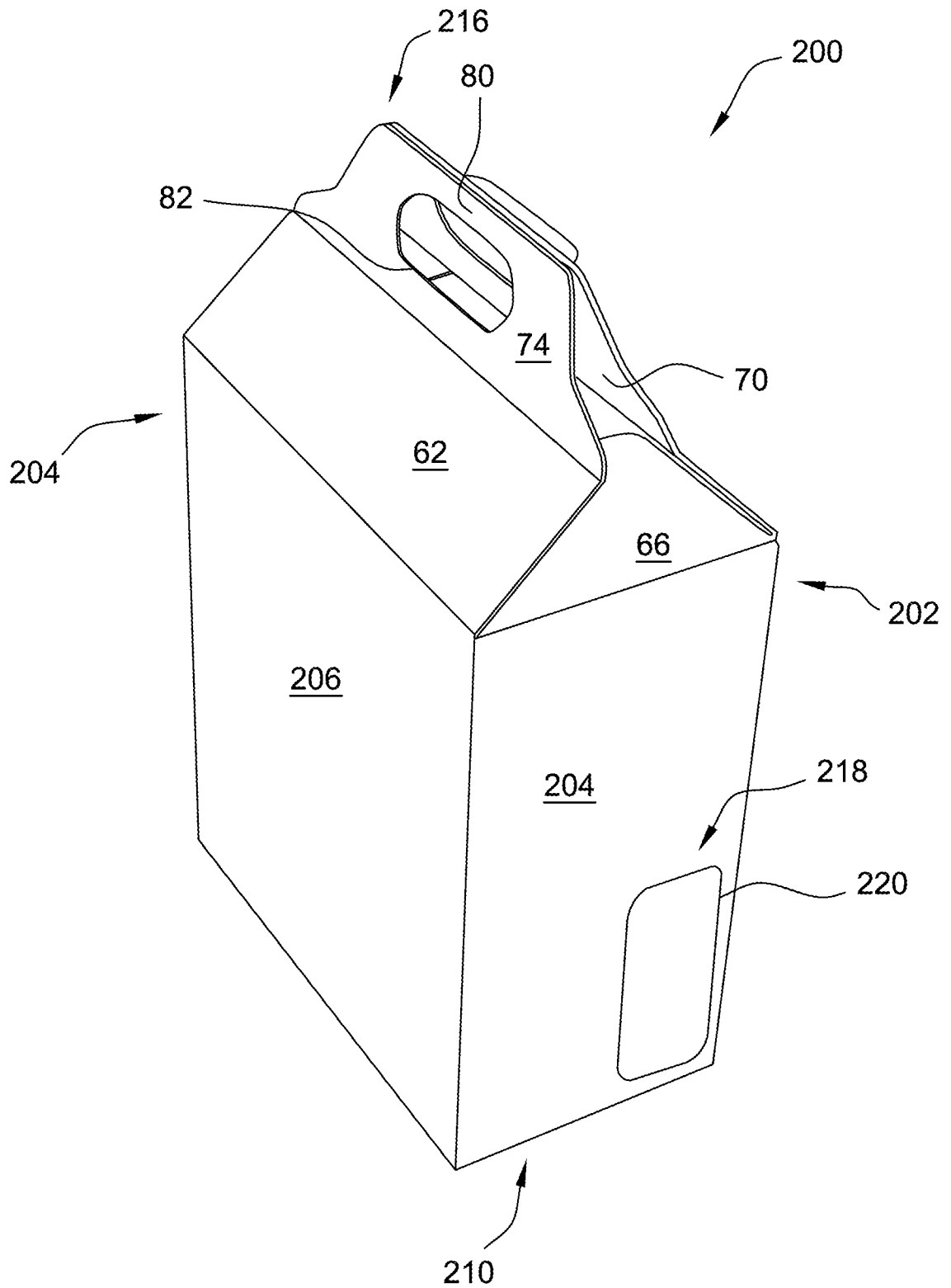
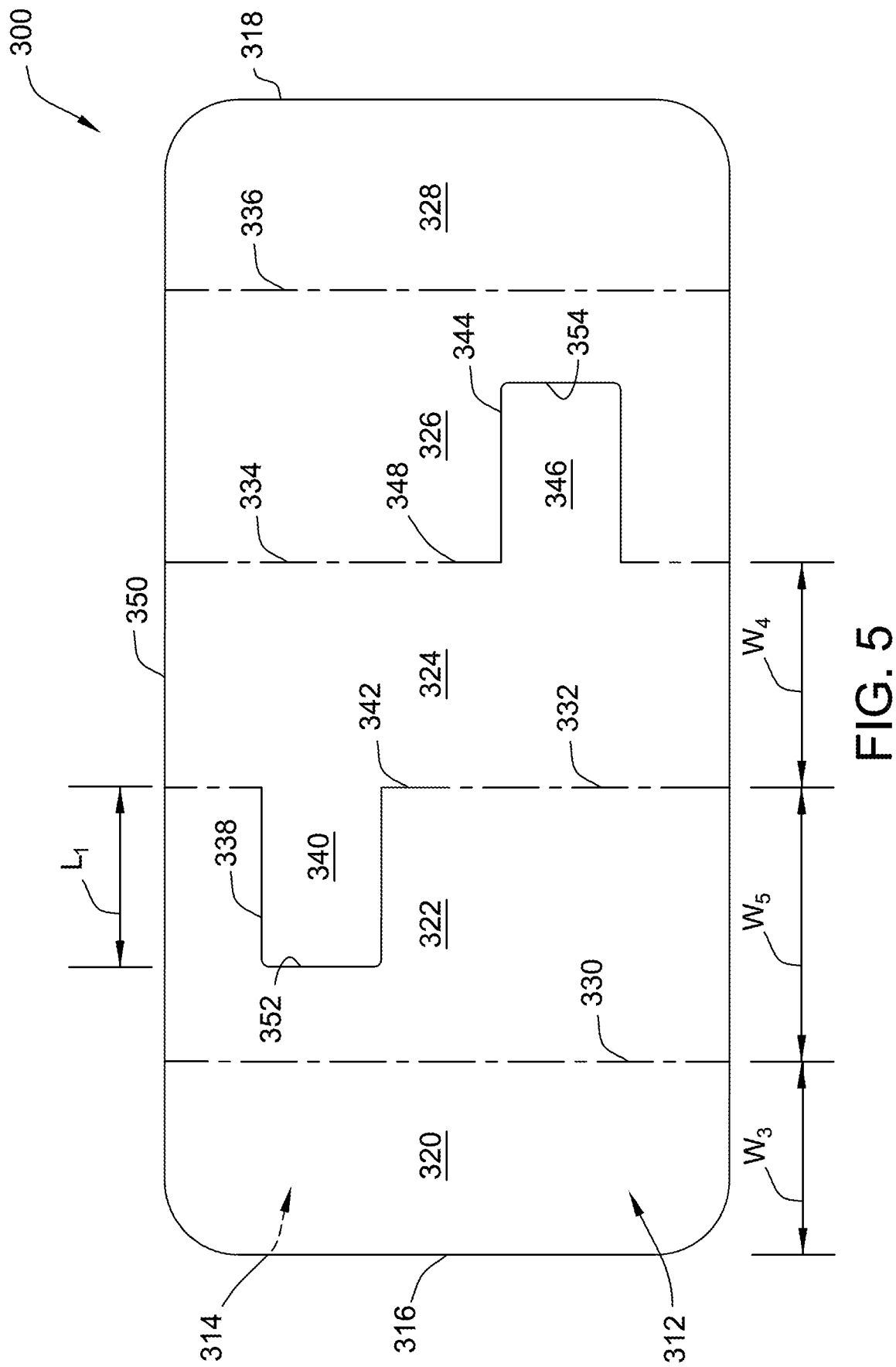


FIG. 4



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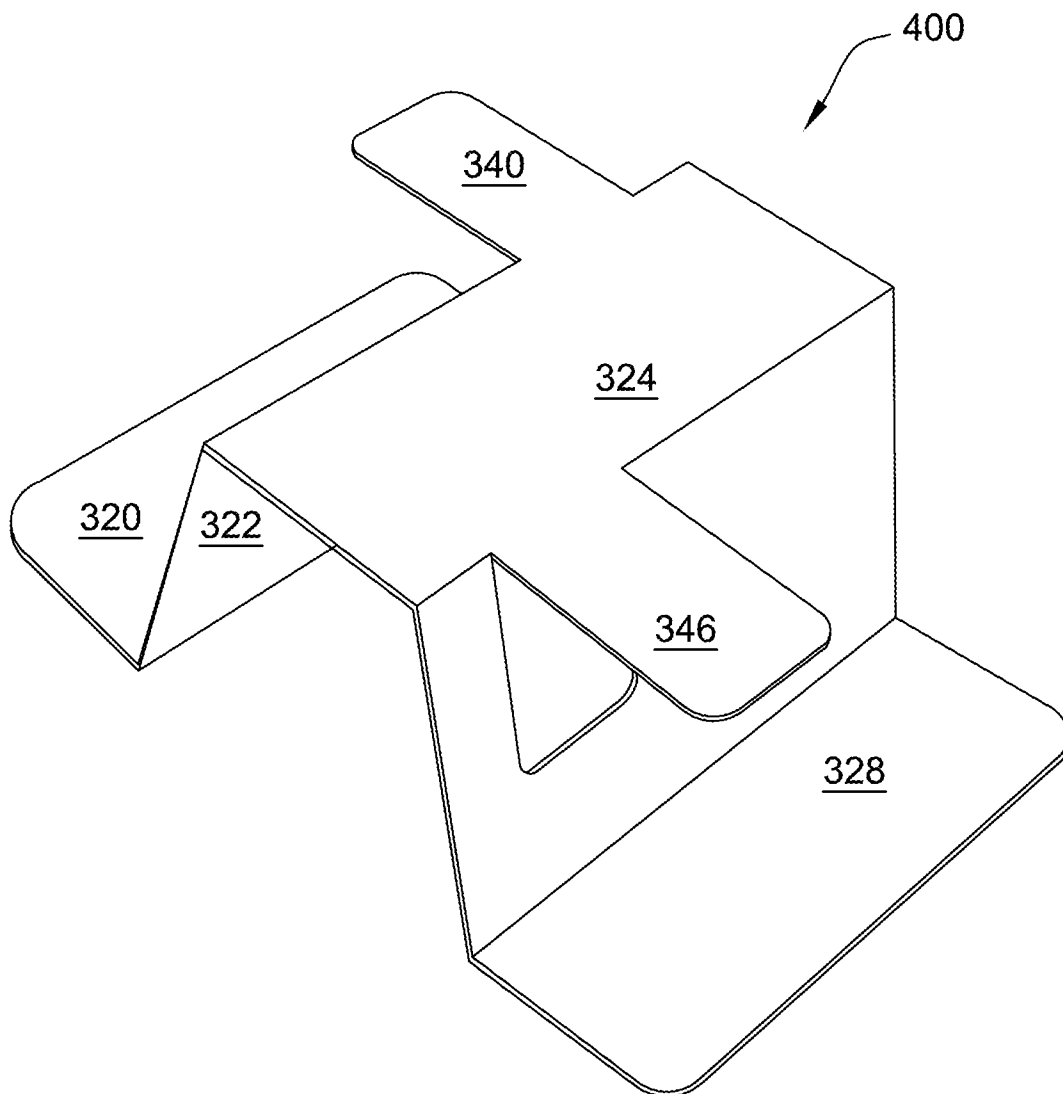


FIG. 6

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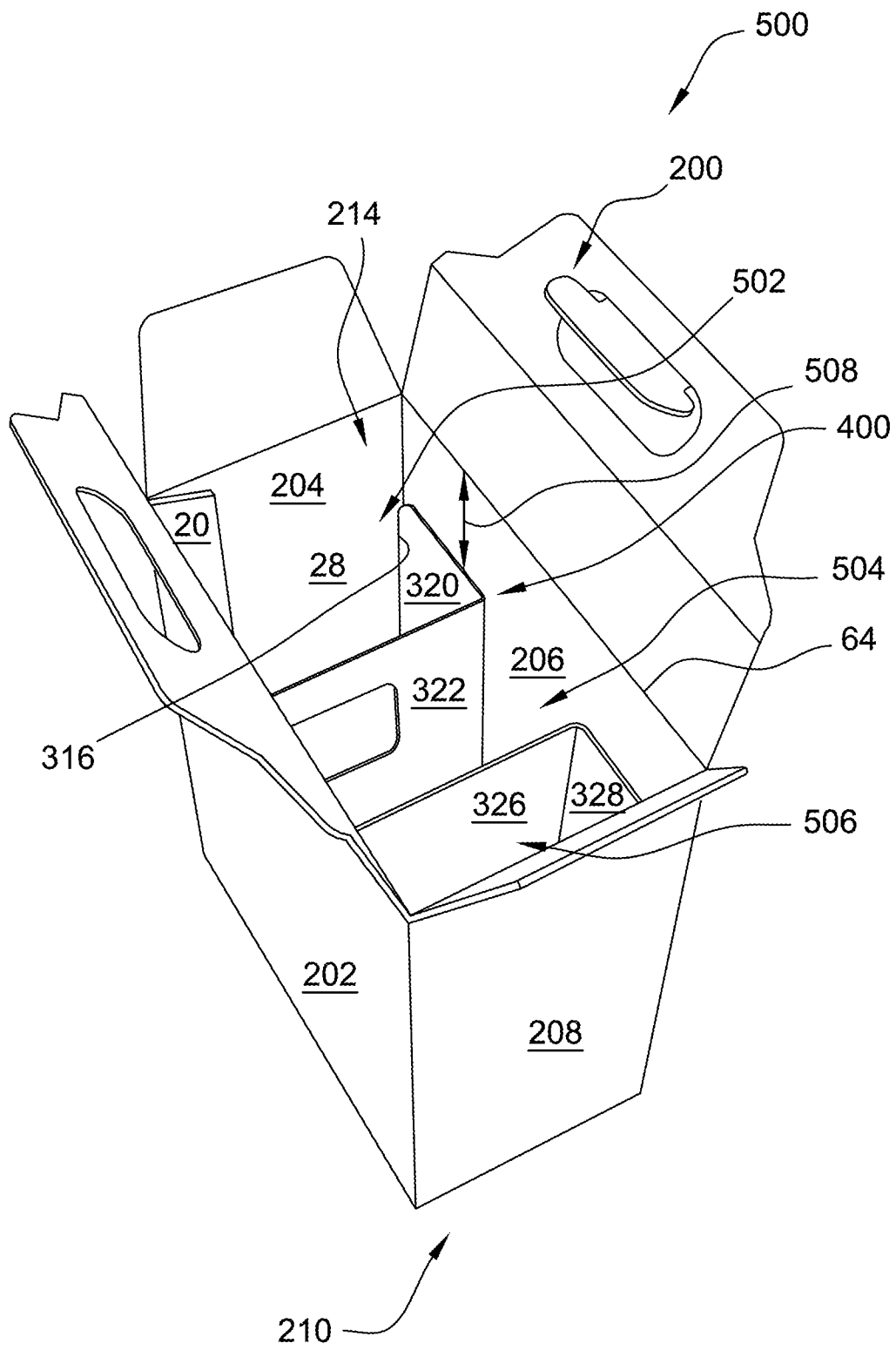


FIG. 7

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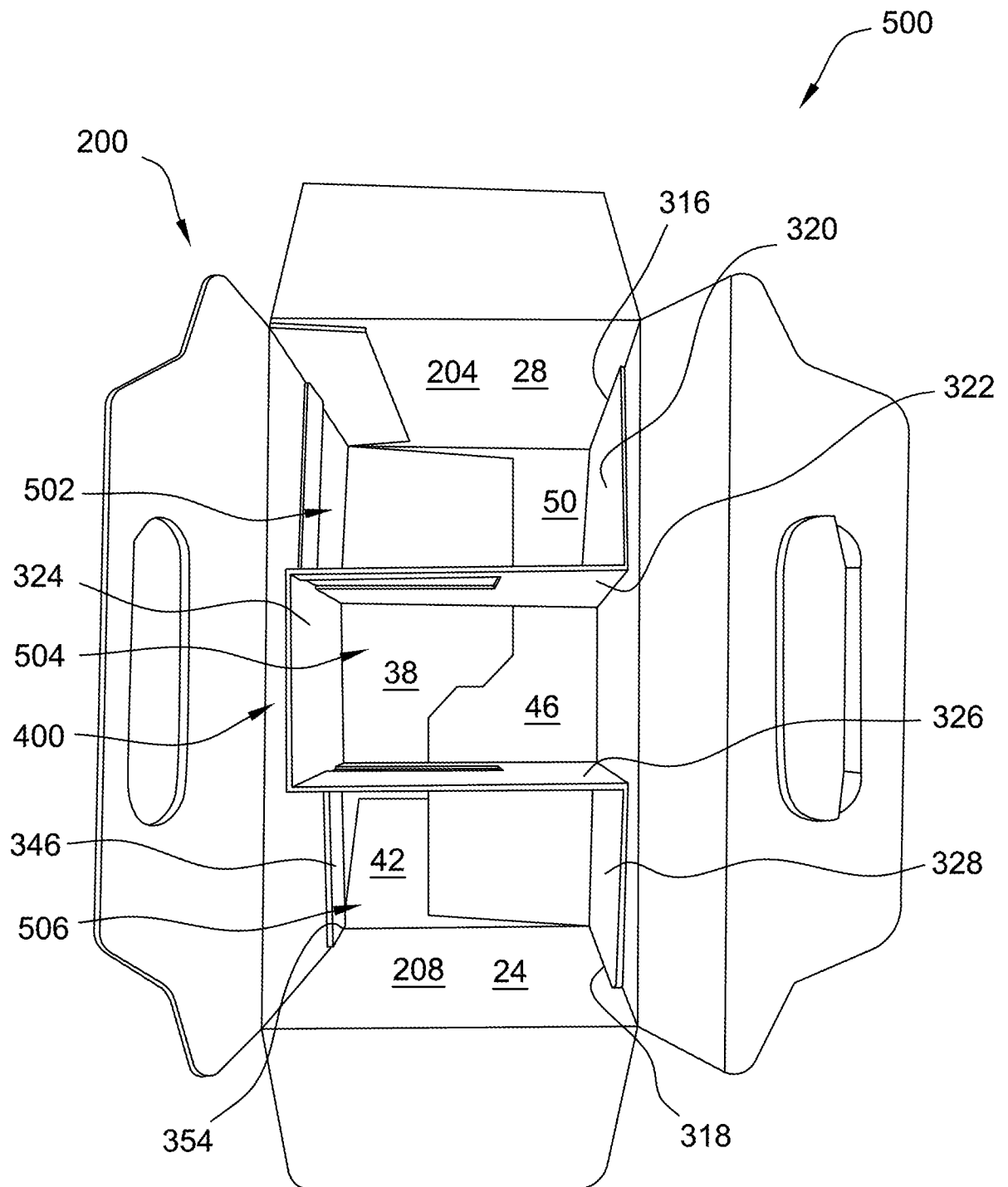


FIG. 8

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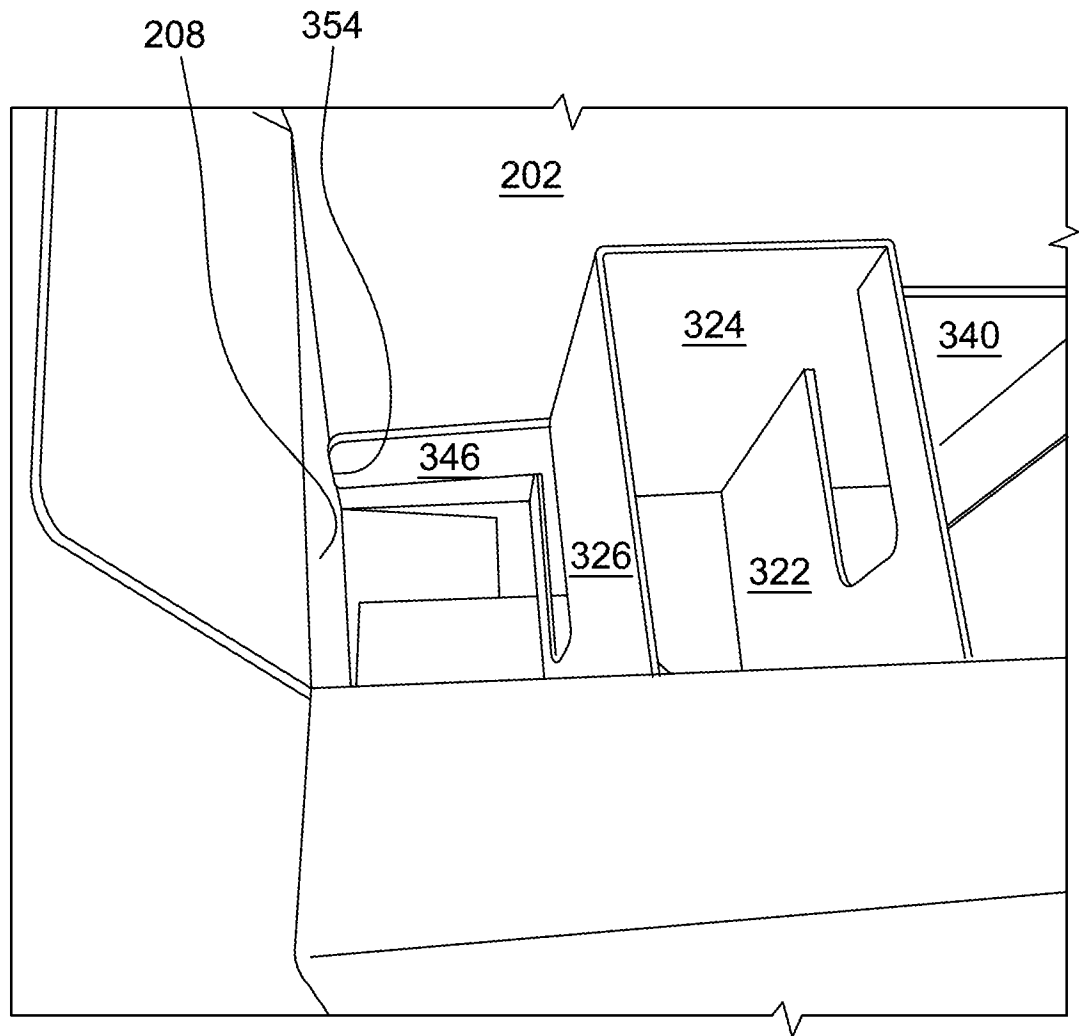


FIG. 9

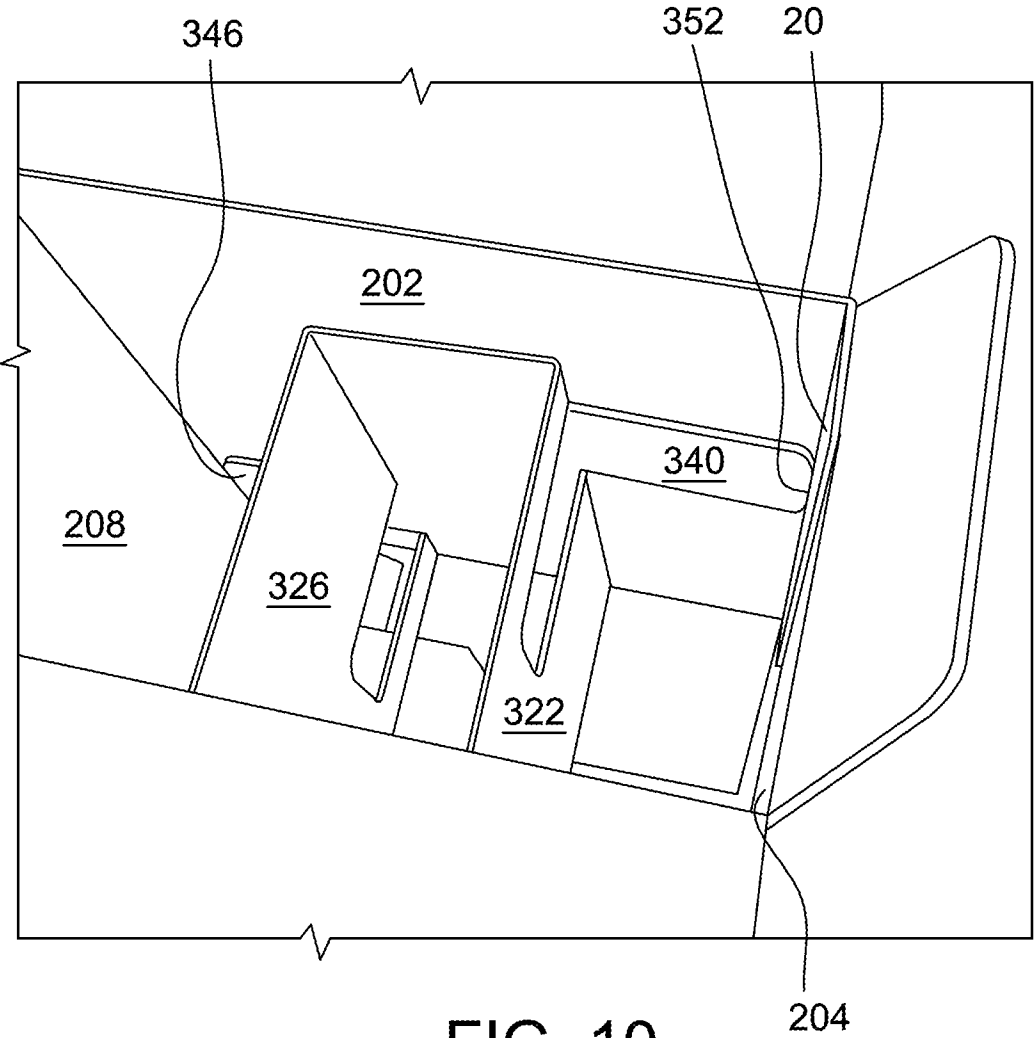


FIG. 10

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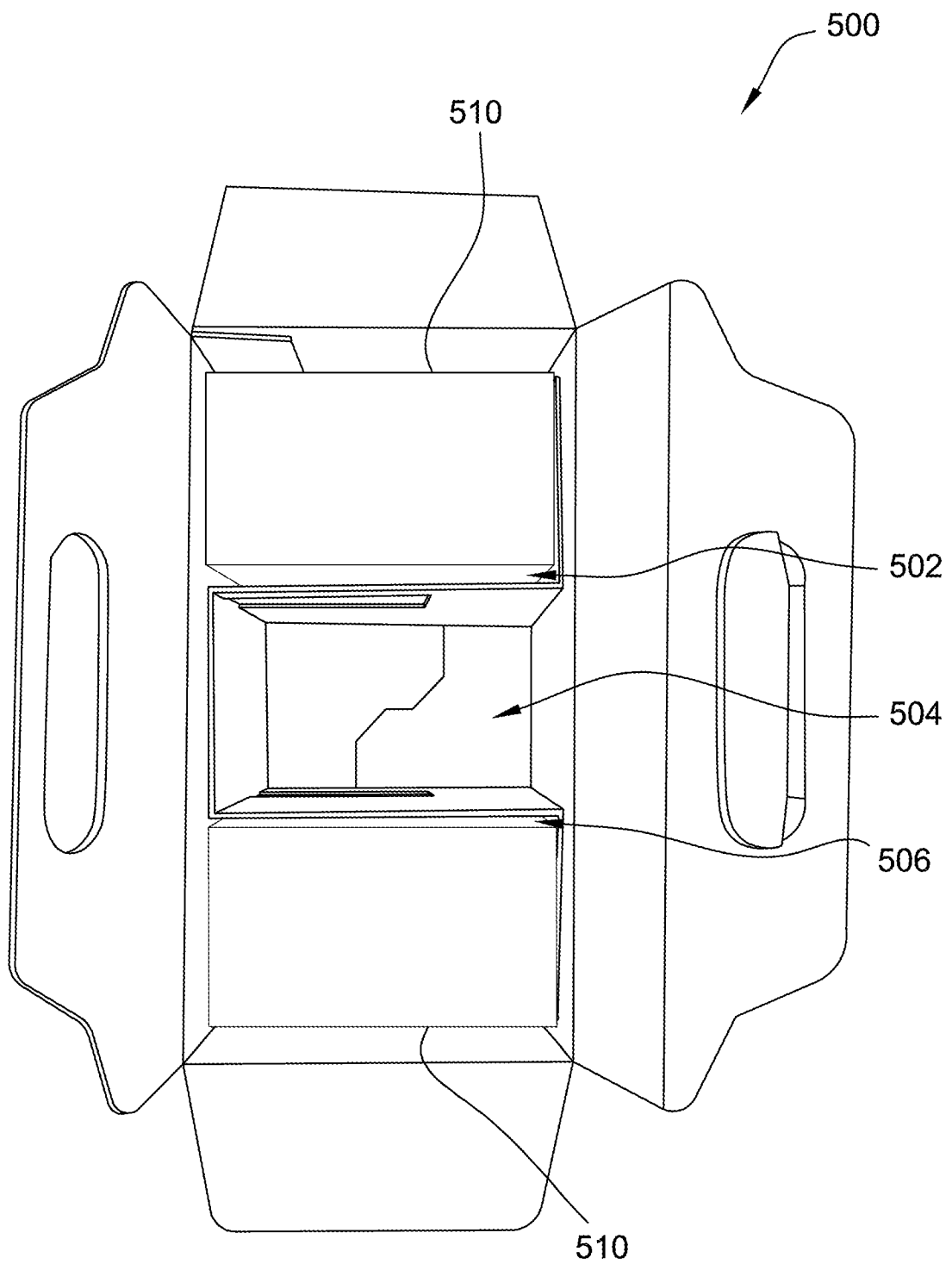


FIG. 11

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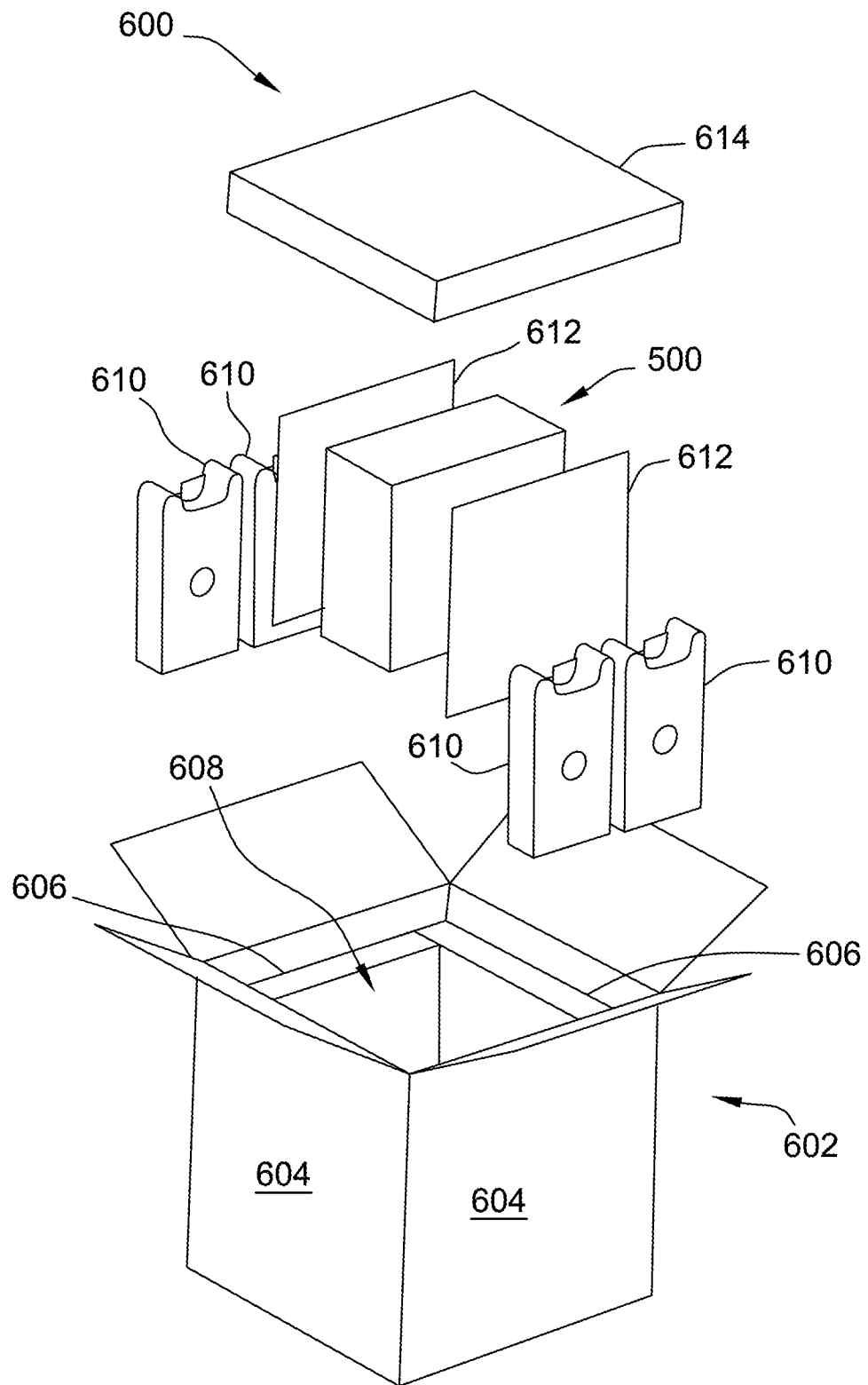


FIG. 12

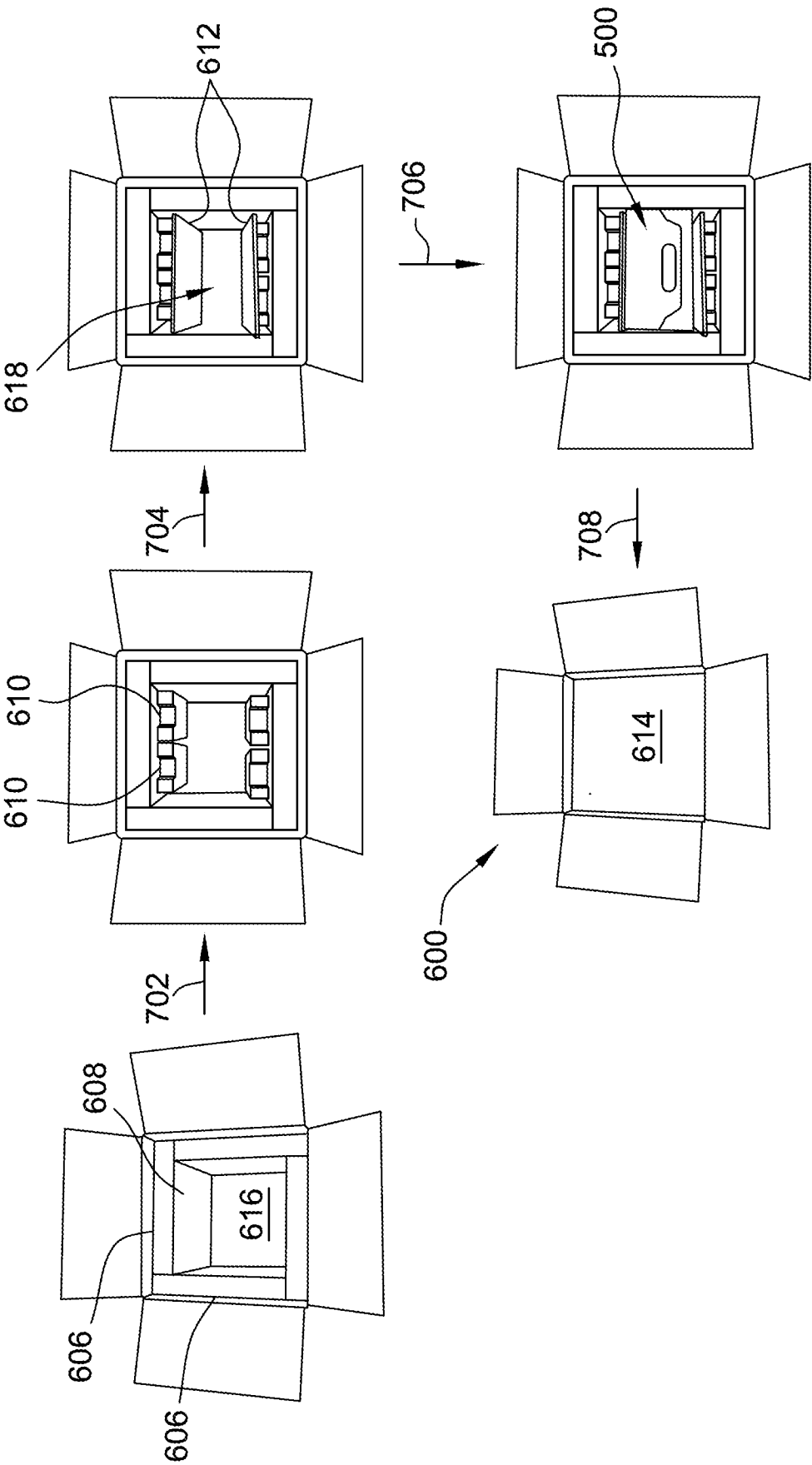


FIG. 13

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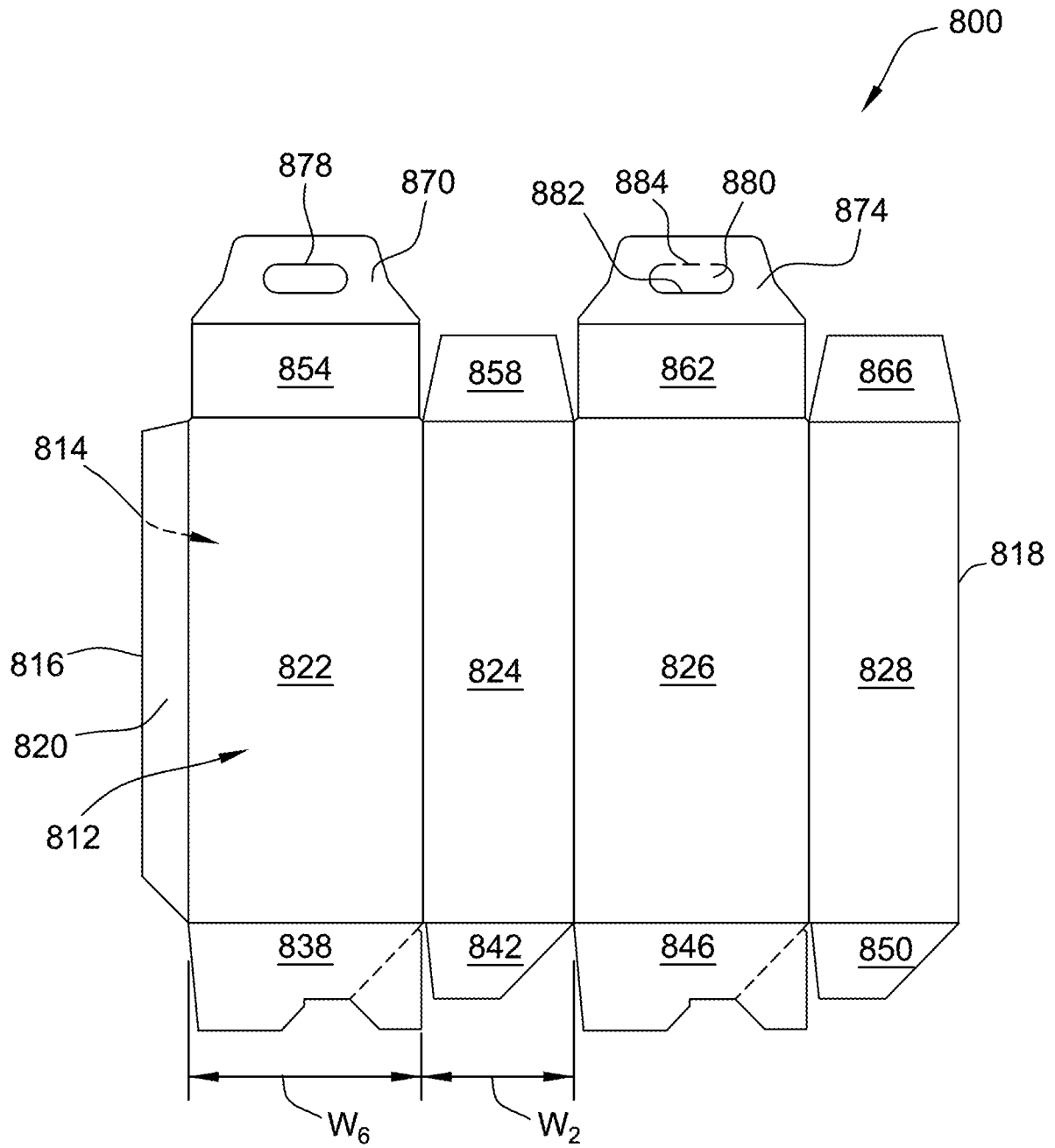


FIG. 14

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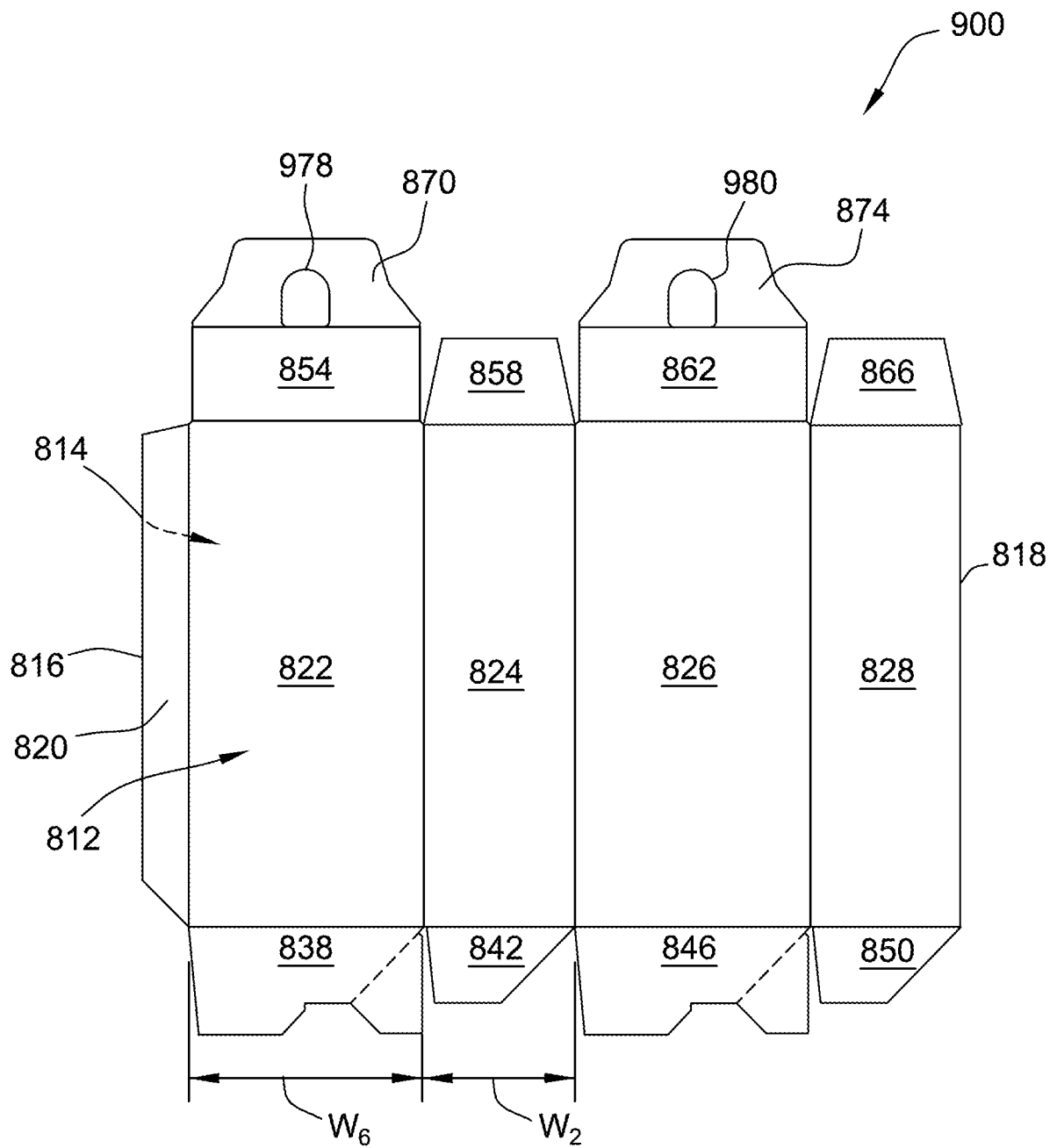


FIG. 15

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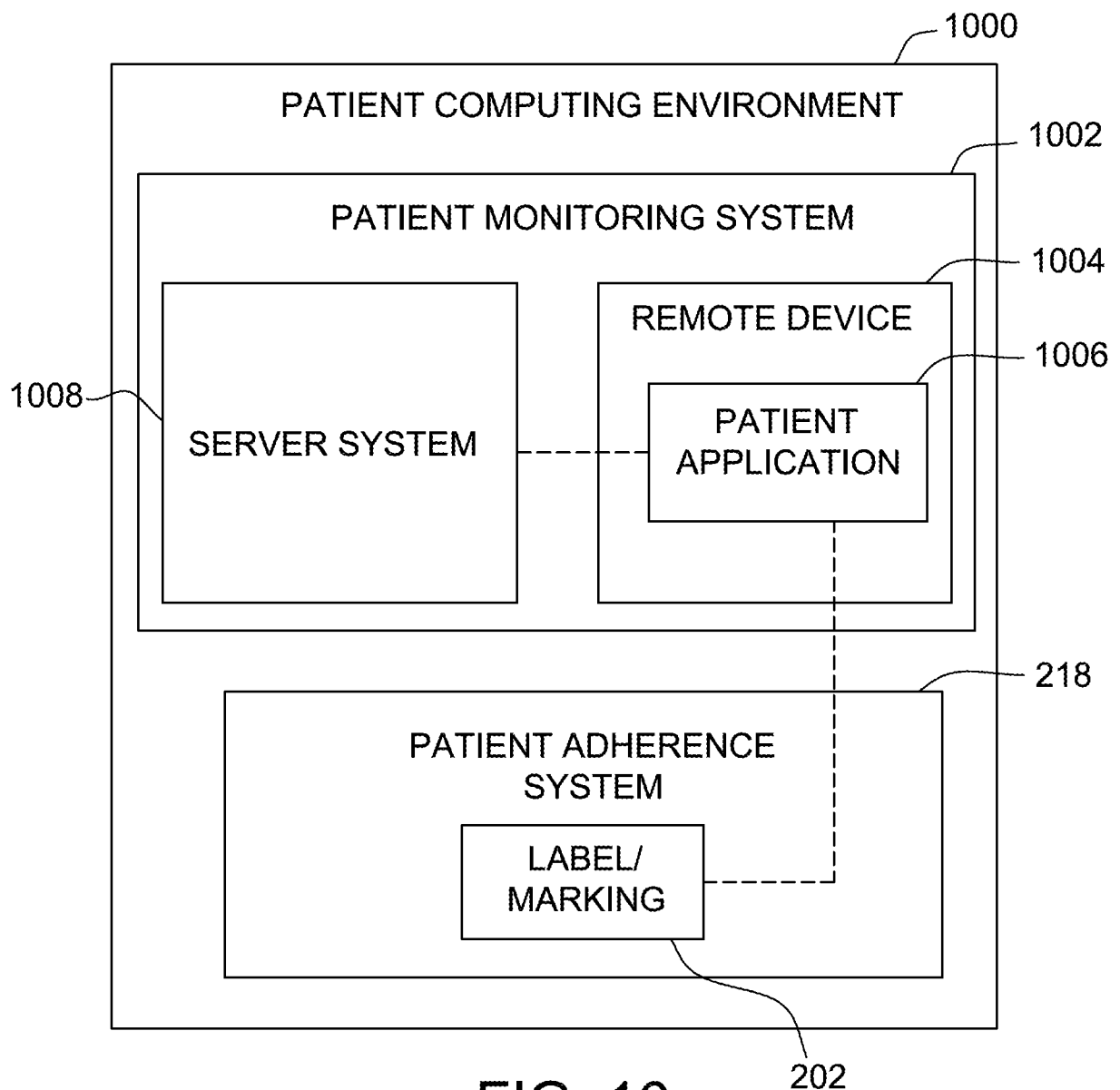


FIG. 16

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2016/030011

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D5/46 B65D5/496
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 296 01 226 U1 (WEROCA KARTONAGEN GMBH & CO KG [DE]) 14 March 1996 (1996-03-14) the whole document	1-18, 25-28
X	US 4 583 677 A (NEESE GERALD W [US] ET AL) 22 April 1986 (1986-04-22) the whole document	1-18, 25-28
X	EP 2 848 546 A2 (ODIFLOLAU HOLDING B V [NL]; VAN DER WEELE LAURIE [NL]) 18 March 2015 (2015-03-18) paragraph [0068] - paragraph [0069]; figures 7a,7b	1,8,25
A	US 1 953 885 A (MCALEER CHARLES F) 3 April 1934 (1934-04-03) the whole document	1-18, 25-28
	-/--	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 June 2016

Date of mailing of the international search report

26/09/2016

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
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Authorized officer

Derrien, Yannick

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2016/030011

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 096 012 A (BRYANT EDWARD T ET AL) 2 July 1963 (1963-07-02) the whole document -----	1-18, 25-28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2016/030011

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-18, 25-28

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/ US2016/ 030011

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-18, 25-28

a container assembly comprising an internal divider, the corresponding blank and forming method,

ii) claims 19-21: a container assembly comprising a plurality of thermal insulation panels,

iii) claims 22-24: a container assembly comprising a patient adherence system.

2. claims: 19-21

a container assembly comprising a plurality of thermal insulation panels,

3. claims: 22-24

a container assembly comprising a patient adherence system.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/030011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 29601226	U1	14-03-1996	NONE
US 4583677	A	22-04-1986	NONE
EP 2848546	A2	18-03-2015	EP 2848546 A2 18-03-2015
		NL 2011702 C	12-03-2015
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