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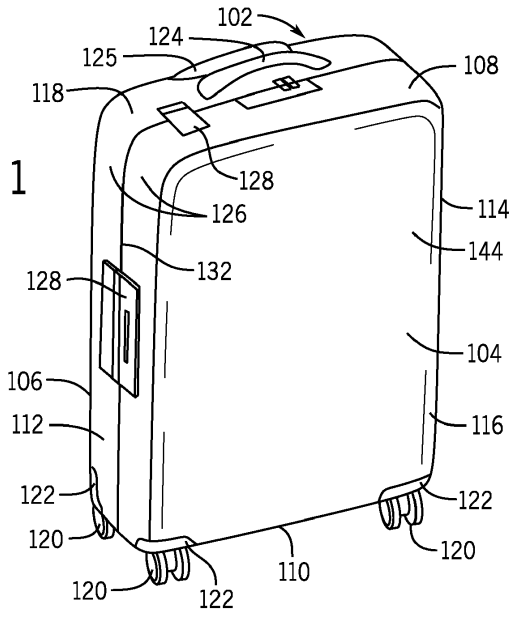
(54) **LUGGAGE CASE DIVIDER WITH POCKET**

(57) A luggage case 102 including a pair of shells (116, 118, 116', 116", 116‴) pivotally connected to move between an open position and a closed position, each shell (116, 118, 116', 116", 116‴) defining a major wall (104, 106) and a peripheral wall (126, 126', 126", 126‴) defining a peripheral rim (132, 132', 132", 132‴), the major wall (104, 106) and the peripheral wall (126, 126', 126", 126‴) together defining a primary interior shell volume (150, 150', 150", 150‴), and the peripheral rim (132, 132', 132", 132‴) defining an opening (134). A flexible divider panel (160, 160', 160", 160‴) is positioned in one shell (116, 118, 116', 116", 116‴) and defines a peripheral edge (178, 178', 178", 178‴), and is removably attached to the peripheral wall (126, 126', 126", 126‴) of the shell (116, 118, 116', 116", 116‴). The flexible divider panel (160, 160', 160", 160‴) includes an upper panel portion (164, 164', 164", 164‴) extending across the opening (134) and a pocket (168, 168', 168", 168"') positioned within the primary interior shell volume (150, 150', 150", 150‴) and having a pocket interior volume (170, 170', 170", 170‴) making up a large portion of the primary shell volume (150, 150', 150", 150‴), the pocket (168, 168', 168", 168‴) extending over at least a majority of the area of the upper panel portion (164, 164', 164", 164‴).

FIG. 1



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Description

BACKGROUND

[0001] Luggage cases often have internal dividers that separate the interior volume into generally two regions when the luggage case is closed. Dividers are usually positioned to extend between opposing walls of the luggage case. The dividers may have no pockets, or may have pockets that are generally small and capable of containing only smaller articles. There is a need for an improved luggage case having a divider including a large volume pocket that addresses one or all of the noted shortcomings.

SUMMARY

[0002] A luggage case is disclosed. In one embodiment the luggage case includes a pair of shells pivotally connected to move between an open position and a closed position, each shell defining a major wall and a peripheral wall defining a peripheral rim, the major wall and the peripheral wall together defining a primary interior shell volume and the peripheral rim defining an opening. A flexible divider panel defines a peripheral edge and is removably attachable to the peripheral wall of the first shell and includes an upper panel portion extending across the opening and at least one pocket defining a pocket interior volume of at least 50% of the primary interior shell volume. The pocket is configured to extend across at least a majority of the area of the upper portion. Additionally, the pocket may extend at least as much as one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% across the area of the upper panel portion.

[0003] In some examples, the flexible divider panel is removably attachable to the peripheral wall at at least one corner.

[0004] Additionally or alternatively, the pocket extends across substantially all of the opening of the shell.

[0005] Additionally or alternatively, the upper panel portion may extend at least as much as one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% across the area of the opening of the shell. Additionally, the upper panel portion extends across substantially all of the opening.

[0006] Additionally or alternatively, the peripheral edge is removably attachable to the peripheral rim of the peripheral wall. Additionally or alternatively, the peripheral edge of the upper panel portion is fitted closely with and adjacent to the peripheral wall. Additionally or alternatively, the pocket is positionable within the primary interior shell volume. Additionally or alternatively, the at least one pocket includes at least two pockets, and the at least two pockets are positioned on the divider on a top side of the upper panel portion, or are positionable on the divider on a bottom side of the upper panel portion and positionable within the primary interior shell volume. Additionally or alternatively, one of the at least two pockets extends across a majority of the area of the upper panel portion. Additionally or alternatively, one of the at least two pockets extends across a majority of the area of the opening of the shell. Additionally or alternatively, the upper panel portion is spaced away from the major wall, of the respective shell.

[0007] Additionally or alternatively, the flexible divider panel is removably attachable to and spaced away from the shell and the upper panel portion is preferably parallel to the major wall of the respective shell.

[0008] Additionally or alternatively, at least one handle is attached to the flexible divider panel. Additionally or alternatively, the at least one handle is attached to the upper panel portion of the flexible divider panel. Additionally or alternatively, the at least one handle includes a handle attached at opposing ends of the upper panel portion. Additionally or alternatively, the handles are each attached between the peripheral edge and a door panel.

[0009] Additionally or alternatively, the flexible divider panel is flexible and includes no structural reinforcement. Additionally or alternatively, the flexible divider panel is made of fabric.

[0010] Additionally or alternatively, the pocket extends across at least 50% of the area of the opening of the shell.

[0011] Additionally or alternatively, an opening is formed in the upper panel portion for opening into the pocket.

[0012] Additionally or alternatively, the pocket volume is proportional to the area of the upper panel portion across which the pocket extends. Additionally or alternatively, the second interior volume is expandable up to at least 50% of the primary interior shell volume or is expandable up to at least 95% of the primary interior shell volume.

[0013] Additionally or alternatively, at least a portion of the pocket engages the major wall and/or the peripheral wall when articles are received in the pocket.

[0014] Additionally or alternatively, a top rim of a panel of the pocket is aligned with at least one portion of the peripheral edge. Additionally or alternatively, a top rim of a panel of the pocket is not aligned with at least one portion of the peripheral edge.

[0015] Additionally or alternatively, the flexible divider panel is integral with the pocket. Additionally or alternatively, the flexible divider panel forms the top of the pocket.

[0016] Additionally or alternatively, the pocket interior volume is configured to define a volume that corresponds to and is adapted to fill at least 50% of the primary interior shell volume of the shell to which the flexible divider panel is fitted. Additionally or alternatively, the pocket corresponds to and is adapted to fill the entirety of the primary shell volume of the shell, to which the flexible divider panel is fitted, and forms a liner for the shell.

[0017] Additionally or alternatively, the pocket defines an upper rim, and a length Lu of the upper panel portion and a length Lpt of the top rim are substantially the same, and a width Wu of the upper panel portion and a width

Wpt of the top rim of the pocket are substantially the same. Additionally or alternatively, a depth Dpf of the pocket is more than one-half of the depth Ds of the shell.

[0018] Additionally or alternatively, the upper panel portion of the flexible divider panel is taughtly suspendable across the opening adjacent to the peripheral rim and/or the peripheral wall.

[0019] Additionally or alternatively, the flexible divider panel is adjustably mountable to the peripheral wall at a height from the major wall of the shell. Additionally or alternatively, the flexible divider panel is removably attachable at each corner of the flexible divider panel to corresponding corners of the peripheral wall, and the peripheral edge of the flexible divider panel is tightly suspendable between each respective corner.

[0020] Additionally or alternatively, the flexible divider panel is mountable within the shell at varying heights above the major wall. Additionally or alternatively, mountings are provided at different heights on the peripheral wall for positioning the flexible divider panel at different heights above the major wall.

[0021] Additionally or alternatively, the flexible divider panel with the shell includes at least one connecting feature and a corresponding receiver bracket, and wherein the connecting feature is removably receivable in at least one of a corresponding attachment point formed on the receiver bracket. Additionally or alternatively, the connection structure may include a bayonet fitting, or may include bosses and sockets. Additionally or alternatively, the at least one connecting feature is positioned on the flexible divider panel and the corresponding receiver bracket is positioned on the shell. Additionally or alternatively, the receiver bracket is positioned in a corner of the shell, and the connecting feature is positioned on a corner of the flexible divider panel. Additionally or alternatively, the receiver bracket is integrally formed with the shell.

[0022] Additionally or alternatively, a collar is spaced away from and extends around at least a portion of the peripheral rim on the interior of the shell, and the receiver bracket extends downwardly from the collar. Additionally or alternatively, the receiver bracket is a separate portion attached to the shell by fasteners. Additionally or alternatively, a flexible divider panel is received in the other shell. Additionally or alternatively, the peripheral wall includes mountings, and the flexible divider panel includes corresponding fittings to attach to the mountings to removably mount and attach the flexible divider panel to the peripheral wall.

[0023] In one embodiment the luggage case includes a pair of shells pivotally connected to move between an open position and a closed position, each shell defining a major wall and a peripheral wall defining a peripheral rim, the major wall and the peripheral wall together defining a primary interior shell volume and the peripheral rim defining an opening. A flexible divider panel defines a peripheral edge and is removably attachable to the peripheral wall of the first shell at at least one corner and includes an upper panel portion extending across the opening and at least one pocket defining a pocket interior volume of at least 50% of the primary shell volume. The pocket is configured to extend across at least a majority of the area of the upper panel portion.

[0024] In some examples, the luggage case includes a connection structure to couple the flexible divider panel to the shell.

[0025] In some examples, the connection structures includes a fitting defining a connecting feature and a mounting defining a receiving feature.

[0026] In some examples, at least one of the fitting or the mounting is attached to the shell and the other of the fitting or the mounting is attached to the flexible divider panel.

[0027] In some examples, the fitting selectively couples with the mounting to couple the flexible divider panel to the shell.

[0028] In some examples, the at least one of the fitting or the mounting is attached to the corner of the shell and the other of the fitting or the mounting is attached to a corner of the flexible divider panel.

[0029] In some examples, the fitting includes a snap feature positioned on a first extension portion extending from the divider panel.

[0030] In some examples, the mounting includes a corresponding snap feature positioned on a second extension portion extending from the peripheral wall.

[0031] In some examples, the fitting and the mounting are oriented orthogonally to the peripheral wall.

[0032] In some examples, the fitting includes a snap feature positioned facially, such as in in some examples vertically, on the flexible divider panel adjacent the peripheral edge and the mounting includes a corresponding snap feature positioned facially, such as in some examples vertically, on the peripheral wall.

[0033] In some examples, the fitting and the mounting are oriented parallel to the peripheral walls.

[0034] In some examples, the fitting defines an aperture.

[0035] In some examples, the mounting defines a hook shaped structure.

[0036] In some examples, the hook shaped structure is received in the aperture to couple the flexible divider panel and the shell.

[0037] Additional embodiments and/or features are set forth in part in the description that follows, and will become apparent to those skilled in the art upon examination of the specification or may be learned by the practice of the disclosed subject matter. A further understanding of the nature and advantages of the present disclosure may be realized by reference to the remaining portions of the specification and the drawings, which forms a part of this disclosure. One of skill in the art will understand that each of the various aspects and features of the disclosure may advantageously be used separately in some instances, or in combination with other aspects and features of the disclosure in other instances.

DRAWINGS

[0038] The description will be more fully understood with reference to the following figures in which components are not drawn to scale, which are presented as various examples of the present disclosure and should not be construed as a complete recitation of the scope of the disclosure, characterized in that:

Fig. 1 shows a perspective view of a luggage case incorporating the divider of the present invention.

Fig. 2 shows the luggage case of Fig. 1 in an open configuration with the divider extending across the opening of one of the two shells.

Fig. 3 shows a top view of the divider positioned in the first shell.

Fig. 4 shows a top view similar to Fig. 3, with a door panel open to the pocket volume of the divider.

Fig. 5A shows a perspective view of Fig. 3, with part of the peripheral wall of the shell cutaway to show the pocket of the divider.

Fig. 5B shows a cross section taken along line 5B-5B of Fig. 3.

Fig. 6 shows the divider removed from the luggage shell.

Fig. 7 shows an enlarged partial view of a corner of the divider as shown in Fig. 6.

Fig. 8 shows an enlarged partial view of a corner of the luggage shell with the divider in position and connected to the luggage shell in an upper position.

Fig. 9 shows an enlarged partial view similar to Fig. 8, with the divider connected to the shell in a lower position.

Fig. 10 shows a section view taken along line 10-10 of Fig. 9, showing the integrally formed receiving bracket in a corner of the luggage shell and connected with the divider.

Fig. 11 shows an alternative example of the receiving bracket positioned in a corner of the luggage shell and connected with the divider.

Fig. 12 shows the alternative example of the receiving bracket of Fig. 11 positioned in a corner of the luggage shell and connected with the divider at a second attachment point.

Fig. 13 shows a cross section of the alternative example depicted in Fig. 12.

Fig. 14 shows an example of a receiving bracket formed separately and attached to the luggage shell.

Fig. 15A shows an enlarged partial view of an example of the connection structure positioned in a corner of the luggage shell connecting the divider to the luggage shell.

Fig. 15B shows a cross section taken along line 15B-15B of Fig. 15A of the example connection structure of Fig. 15A.

Fig. 16A shows an enlarged partial view of an example of the connection structure positioned in a corner of the luggage shell connecting the divider to the luggage shell.

Fig. 16B shows a cross section taken along line 16B-16B of Fig. 16A of the example connection structure of Fig. 16A.

Fig. 17A shows an enlarged partial view of an example of the connection structure positioned in a corner of the luggage shell connecting the divider to the luggage shell.

Fig. 17B shows a cross section taken along line 17B-17B of Fig. 17A of the example connection structure of Fig. 17A.

DETAILED DESCRIPTION

[0039] The improved luggage case described herein may include a removable divider including an upper portion extending across the opening of the shell and a large-volume pocket positioned below the upper portion and extending into the luggage shell. The pocket may extend across a majority of the area of the upper portion, and the pocket may encompass a large portion of the internal compartment of the luggage shell. The divider may be adjustable to different vertical positions within the luggage shell. The divider may be flexible and may be free of structural reinforcement in order better facilitate removal from the luggage case, improved flexibility for covering articles, and enhance washing the divider using a washing machine. In other examples, the pocket may contain articles that expand the pocket to fill the volume of the shell, or the pocket may be empty, in which case the volume of the shell is largely unused.

[0040] The improved luggage case includes a first shell and a second shell pivotally connected to move between an open position and a closed position. Each shell may define a major wall and a peripheral wall, the peripheral wall defining a peripheral rim. The major wall and the peripheral wall together may define a primary interior shell volume, and the peripheral rim may define an open-

ing. A flexible divider panel may be removably attached to the peripheral wall of the first shell. The divider may include an upper portion extending across the opening, and may define a pocket positioned within the primary shell volume, the pocket defining a pocket interior volume. The pocket may extend across most of the area of the upper portion, and may extend into and encompass a majority of the primary shell volume. The pocket extending across a majority of the area of the upper portion allows the user to pack a relatively large volume of articles in the pocket volume across the relatively large area of the pocket, that are kept separate from the articles stored in the primary shell volume. The divider with a large-volume pocket integrates a packing organization structure into the luggage case. Additionally, when not in use the large volume pocket may remain in the luggage case and collapses and does not interfere with the full use of the primary shell volume.

[0041] The improved luggage case with a divider having a large-volume pocket described herein may be suitable for use on many different types of luggage articles, including but not limited to hard-sided luggage cases, soft-sided luggage cases, and hybrid luggage cases.

[0042] FIG. 1 is an isometric view of a luggage case 102 in a closed configuration according to some examples of the present disclosure. A luggage case 102 may be formed from a plurality of walls or panels defining, when the shells are in a closed configuration, an internal compartment and storage volume in which to carry a user's belongings. As shown, the luggage case 102 includes opposing main panels such as a front panel 104 and an opposing rear panel 106, opposing end panels such as a top end panel 108 and an opposing bottom end panel 110, and opposing side panels, such as a left side panel 112 and an opposing right side panel 114. These panels collectively define a pair of opposing shells 116, 118 and that form the outer structure of the luggage case 102. The left side panel 112, right side panel 114, front panel 104 and rear panel 106 extend along the long dimension of the luggage case. As shown, a plurality of wheel assemblies 120, which may be caster-type wheel assemblies, may be coupled to at least the bottom panel 110, such as at the lower corner regions 122. When the luggage case 102 rests on a support surface (such as a floor) by the engagement of the wheel assemblies 120, the bottom panel 110 is nearest the support surface, the top panel 108 is furthest from the support surface, and the front panel 104, rear panel 106, left side panel 112, and right side panel 114 extend upwardly from the bottom panel 110 to the top panel 108.

[0043] The luggage case 102 may also include one or more carry handles 124, typically one on a side panel (for example 114, not shown), and another on the top panel 108 of the luggage case 102. The luggage case 102 may also include an extendable or telescopic tow handle 125 attached to or configured with at least one panel of the luggage case 102, such as to the rear panel 106.

[0044] With reference to Figs 1 and 2, the two shells 116, 118 each have a peripheral wall 126 defining a peripheral rim 132. The peripheral rim 132 in one example extends across at least the top panel 108, left side panel 112, bottom panel 110, and at least partially across the right side panel 114. The peripheral rim 132 of the peripheral wall 126 in one example may be formed by the top edge 138 of the peripheral wall 126. In another example the peripheral rim 132 of the peripheral wall 126 may include the top edge 138 of the peripheral wall 126 and a collar 136. The collar 136 extends around at least a portion, and as shown in Figs. 1 and 2 extends around almost all of the peripheral wall 126. The collar 136 may be spaced inwardly from the peripheral wall 126 of the shell 116. The collar 136 may be spaced inwardly a distance in the range of about 10 to 18 millimeters. The spacing may be greater or less than that dimension. The collar 136 may be positioned at substantially the same height as the peripheral rim 132. For example a top edge of the collar 136 may be approximately flush with, recessed from, or higher than, the top edge 138 of the peripheral wall 126. The collar 136 may be spaced away from the top edge 138 of the peripheral wall 126 by a web or webs 142 positioned at discrete locations along the peripheral wall 126. Referring to Figs. 8 and 9, the collar 136 may be a relatively narrow band (as measured relative to the height of the peripheral wall 126) along at least a portion of its length. In one example, the collar 136 may be relatively narrow along the opposing end panels 108, 110 and along the opposing side panels 112, 114 of the shell 116, and may be wider in the corners 190. The collar 136 may increase the structural integrity, such as the stiffness, of the peripheral rim 132 of the luggage shell 116, and may aid in the engagement of the peripheral rims 132 of both shells 116, 118 when in the closed configuration. Reference to peripheral rim 132 herein is inclusive of the peripheral rim being formed by the top edge 138 of the peripheral wall 126, or the combination of the top edge 138 of the peripheral wall 126 and the collar 136.

[0045] The peripheral rim 132 defines an opening 134 of the shell 116, 118. In the example where the peripheral rim 132 is defined by the top edge 138 of the peripheral wall 126, the dimensions, such as the area, of the opening 134 are defined by the top edge 138. In an example where the peripheral rim 132 is defined by the top edge 138 of the peripheral wall 126 and the collar 136, the dimensions, such as the area, of the opening 134 are defined by the collar 136.

[0046] The shells 116, 118 may be selectively secured in a closed configuration by a closure mechanism 128, such as a clamp or clamps positioned to engage across the line of closure formed by the peripheral rim 132 between the shells 116, 118. Alternatively, the closure mechanism 128 may be a continuous closure mechanism 128, such as for example a zipper structure extending along at least a part of the peripheral rim 132 of each shell 116, 118. A hinge structure (not shown) may be

formed on the right side panel 114 such that two portions (shells 116, 118) of the luggage case 102 remain connected by the hinge when the closure mechanism 128 is disconnected and the shells 116, 118 rotate apart about the hinge to access the interior volume of the luggage case 102.

[0047] The shells 116, 118 may define an inner surface 140 and an outer surface 144, and may be at least partially formed from materials used to construct hard-sided or rigid luggage cases, such as a plastic material, such as for example polypropylene, polyurethane, self-reinforced polypropylene, and combinations or alloys thereof or other materials. A liner material may be positioned over the inner surface of either or both shells 116, 118. The luggage case 102 may, in the alternative, be of a soft-side or hybrid of soft-side and hard-side construction.

[0048] Each shell 116, 118 defines a primary shell volume 150 defined by the respective major wall or main panel 104, 106 and respective portions of the opposing side panels 114, 116 and top 108 and bottom 110 panels. The opposing side panels 114, 116 and opposing top 108 and bottom 110 panels of each shell define the peripheral wall 126 extending from the respective main panel 104, 106 to define the primary shell volume 150. As described herein, the shell 116, 118 having the tow handle may be referred to as the rear shell 118, and the other shell may be referred to as the front shell 116.

[0049] Referring to Figs. 2 and 3, the luggage case 102 is shown in an open configuration with an example of the improved divider 160 positioned in the front shell 116 and extending across the opening 134 of the shell 116. While described herein with respect to being positioned in the front shell 116, in some examples a divider 160 may be positioned in both shells 1116, 118, or a divider 160 may be positioned only in shell 118. The divider 160 includes an upper portion 164 and a pocket 168 (see Figs. 4, 5A, and 5B) having a pocket volume 170 depending from the upper portion 164 and extending into the primary shell volume 150 of the shell 116. The pocket 168 is accessed through the upper portion 164 by a selectively openable door panel 174. The pocket 168 extends across an area of the upper portion 164 of the divider 160. In one example, the pocket 168 extends across a majority of the area of the upper portion 164. In one example of extending across the area of the upper portion 164, the pocket 168 may be below the divider 160 and positioned in the primary shell volume 150. The divider 160 defines a peripheral edge 178. The peripheral edge 178 may be sized such that it is closely spaced to the peripheral rim 132 of the shell 116, and in one example, a gap 182 formed between the two. In another example, there is no effective gap 182 between the peripheral rim 132 and the peripheral edge 178.

[0050] The divider 160 is removably attached or mounted to the front shell 116 at the peripheral wall 126. In one example, the divider 160 may be connected to the peripheral wall 126 by releasable connecting structure 186. In one example, the divider 160 may be connected to the peripheral rim 132 of the peripheral wall 126. The releasable connecting structure 186 may attach to the peripheral wall 126 at the corners 190 of the front shell 116. The releasable connecting structure 186 may be configured to attach at different heights of the peripheral wall 126, thereby allowing the divider 160 to move towards and away from the main panel 104, also referred to as the major wall 104, of the front shell 116. The divider 160 may, in one example or examples, be made of flexible material such that it may be collapsed while in the luggage shell, or upon removal from the luggage shell. This flexibility provides a benefit over hard and/or rigid or inflexible panels that may have been implemented earlier. The divider 160, additionally or independently, in some examples, may not include reinforcing structure, such as a frame or wire rim around the peripheral edge 178 of the upper portion 164, nor stiffening stays or ribs positioned across the area of the upper portion 164, nor stiffening panels, such as polypropylene panels, as may sometimes be used in existing luggage dividers. In one example, the divider 160 is supported by its connection to the peripheral wall 126 to extend across the opening 134. The divider 160 is described herein as being positioned in and attached to the first shell 116. In an alternative example, or in addition to the example described herein, the divider 160 may be positioned in and attached to the second shell 118 using the same or similar structure and having the same or similar function and benefits. The divider 160 may have one or more handles 176 positioned on the upper portion 164 to aid in the handling of the divider, such as when it is removed from the shell 116, or when it is replaced into the shell 116, 118.

[0051] Referring to Figs. 2 and 3, the upper portion 164 may be a flexible sheet structure including one or more layers of material, and may be made from more than one piece of material combined together. The upper portion 164 may include elastic properties to allow it to stretch as it becomes taut. Alternatively, the upper portion may be generally inextensible. The upper portion 164, in one example, may be generally planar. The upper portion may define an outer surface 166 facing away from the shell, and an inner surface 172 (see Fig. 5B) facing into the shell 116.

[0052] Continuing with Figs. 2 and 3, the upper portion 164 in some examples may define a shape that may closely replicate the shape of the peripheral wall 126 of the front shell 116, and in some examples, it may closely replicate the shape of the peripheral rim 132. In the example shown, this shape is generally rectangular, but may be a square shape or other shapes. The shape of the upper portion 164 in some examples may different than the shape of the peripheral wall 126. The upper portion 164 may be sized such that when attached to the peripheral wall 126, a gap 182 is formed between at least a portion of the peripheral edge 178 of the upper portion 164 and the front shell 116. In one example, the gap 182 is formed between the peripheral edge 178 and the pe-

ripheral rim 132 of the front shell 116. In one example, the size of the gap 182 may be in the range of about 5 mm to about 10 mm. This size range of gap may be beneficial by allowing the divider 160 to move somewhat toward the peripheral rim 132 in any direction to accommodate different levels of tension in the upper portion 164. In another example, the gap may be in the range of about 0 mm to about 5 mm. This size range of the gap may be beneficial because it may better keep articles from extending through the gap 182 near the peripheral rim 132 compared to the larger gap ranges. In another example, the gap 182 may be in the range of about 10 mm to 15 mm. This size range of gap 182 may be beneficial because it allows articles to extend past the upper portion 164 next to the peripheral rim 132 if necessary. The size of the gap 182 may vary based on the tension in the upper portion 164, and the shape of the peripheral edge 178. The gap 182 may extend entirely around or partially around the peripheral edge 178 of the upper portion 164. The gap 182 may be the same width around the entire peripheral edge 178 of the upper portion 164, or may vary in width. The size of the gap 182 between the upper portion 164 and the peripheral rim 132 may be adjusted by the releasable connecting structure 186 used to attach the divider 160 to the peripheral rim 132 of the front shell 116.

[0053] The divider 160 is preferably tautly suspended across the opening 134 when connected to the peripheral wall 126 of the shell 116. In one example, the connecting structure 186 may be adjusted to change the level of tension in the divider 160, and for example in the upper portion 164, as it is suspended across the opening. The gap 182 may range from relatively small to relatively large as the level of tension increases in the divider 160 as it is suspended across the opening 134. The gap 182 may extend downwardly from the peripheral rim 132 and extend along the peripheral wall 126 (see Fig. 5B), and be measured between the peripheral wall 126 and the pocket 168, as described in further detail below. A taut or tensioned divider 160 may be beneficial because it helps compress both the articles positioned in the pocket volume 170 of the pocket 168 below the upper portion of the divider, as well as the articles in the shell 116 that are below the upper portion 164 and not within the pocket 168. A loosened divider 160 may be beneficial because it may allow the upper portion 164 to deflect upwardly and expand the pocket volume 170 in a direction through the opening 134 if needed, such as if the pocket volume 170 is over-packed.

[0054] Fig. 4 shows an example of the divider 160 positioned within the front shell 116, and with the door panel 174 in an open configuration. A closure mechanism, such as a zipper 148, may be used to selectively open and close the door panel 174. Velcro or other fasteners may be used in combination together or as the alternative. The door panel 174 is configured such that when open it may fold over the peripheral wall 126 of the front shell 116 to be out of the way as the pocket 168 is being filled or emptied. The door panel 174 may open in another direction based upon the configuration of the door panel 174.

[0055] Referring to Figs. 4, 5A, 5B and 6, in one example the upper portion 164 may include and area bounded by the peripheral edge 178, and which may be defined by its width and length dimensions. In one example, the upper portion 164 may be approximately 665.9 mm in length (Lu) and approximately 467.5 mm in width (Wu). The edges of the door panel 174 as defined by the zipper 148 may be spaced from the peripheral edge 178 of the upper portion 164 by approximately 50mm at the ends adjacent top panel 108 and bottom panel 110, and 40mm along the edge adjacent the side panel 114. A hinge may be formed by the material of the door panel 174 that extends between the ends of the zipper 148 (e.g. a "living hinge"), or may be made of a separate structure. The hinge may be spaced apart from the edge 178 adjacent side panel 112 by approximately 30mm. The internal length Ls, width (Ws) and depth (Ds) of the front shell 116 in the example of Fig. 4, which may be an SP75 size luggage case, are approximately 675.9 mm (Ls), 477.5 mm (Ws), and 145.5 mm (Ds) respectively. In the example shown, the upper portion 164 covers approximately 96% of the area of the opening 134 of the shell 116. In some examples, the gap 182 between the peripheral edge 178 of the upper portion 164 and the peripheral rim 132 of the front shell 116 is generally in the range of about 0 to about 15 mm in one example, or between about 5 and about 15 mm in another example, or between about 0 and about 5 mm in another example, or between about 5 and about 10 mm in another example, or between about 10 and about 15 mm in another example. The upper portion 164 may extend across at least as much as 50% or more of the opening 134 of the shell 116. In other examples, it may extend at least as much as any one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% of the area of the opening 134 of the shell 116. The greater the percentage of coverage, the more the contents of the shell 116 may be positioned under the divider 160.

[0056] Figs. 5A, 5B and 6 show the upper portion 164 with the pocket 168 positioned within the primary shell volume 150 of the luggage front shell 116. In some examples, the pocket 168 may extend below the upper portion 164 and into the primary shell volume 150. The pocket 168 may extend across substantially all of or a majority of the area of the upper portion 164 of the divider 160, and thus the area of the pocket at the location where it attaches to the upper portion 164 has the same or similar area as the upper portion 164. In this example, the pocket 168 covers the same percentage of the area of the opening 134 as does the upper portion 164. In other examples, the area of the pocket 168 where it attaches to the upper portion 164 may be less than the area of the upper portion 164. The pocket 168 may be defined by opposing long side panels 198, opposing end panels 202, and at least one floor panel 206. The pocket volume 170 of the pocket

168 may be defined by the side panels 198, end panels 202 and floor panel 206. The top edges 158 of the side 198 and end panels 202 define a top rim 180 of the pocket 168. In one example, the top rim 180 may be connected to the upper portion 164 coextensive with the peripheral edge 178, as shown in Figs. 5A and 5B, in which case the area of the top rim of the pocket 168 may be the same as the area of the upper portion 164. In some examples, the pocket 168 is made of a flexible material. In some examples, the pocket 168 and the upper portion 164 may be made of the same material.

[0057] In the example where the rim 180 of the pocket 168 is connected to the upper portion 164 coextensive with the peripheral edge 178, the pocket 168 at its top rim 180 may have the same or similar length and width dimensions, and resulting pocket area, of the upper portion 164. In this example, the length (Lpt) (shown in Fig. 6) at the top rim 180 of the pocket 168 may be approximately the same as the length (Lu) of the upper portion 164, in one example approximately 665.9 mm, and the width (Wpt) (shown in Fig. 5B) of the top rim 180 of the pocket 168 may be approximately the same as the width (Wu) of the upper portion 164, in one example 467.5mm. In this example, the pocket extends across 100% of the area of the upper portion 164 of the divider. And, similar to the upper portion 164, the pocket 168 in this example extends across 96% of the area of the opening 134 of the shell 116.

[0058] Continuing with reference to Figs. 4, 5A, 5B and 6, the pocket 168 may also extend across a majority of the area of the upper portion 164 but less than 100% of the area, which majority may include more than 50% of the area of the upper portion 164. In some examples, the pocket 168 may extend across at least approximately three-quarters of the area of the upper portion 164, or at least approximately two-thirds of the area of the upper portion 164, or at least one-half of the area of the upper portion 164. The pocket 168 extending across a majority of the area of the upper portion 164 allows the user to pack a relatively large volume of articles in the pocket volume 170, and in some examples across the relatively large area of the pocket 168), that are kept separate from the articles stored in the primary shell volume 150. The divider with a large-volume pocket 168 integrates a packing cube type organization space into the luggage case and provides the ability to better organize the packed articles. Additionally, when not in use the large volume pocket 168 may remain in the luggage case (and thus not get misplaced) and collapses and does not interfere with the full use of the primary shell volume 150. In some examples, pocket 168, such as for example the upper rim 180 of the pocket 168, may extend across at least as much as 50% or more of the upper portion 164. In other examples, it may extend at least as much as any one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% across the area of the upper portion 164. The greater the percentage of coverage, the more the contents of the shell 116 may be positioned in the pocket and under a larger area of the divider 160 for securement with in the shell.

[0059] In other examples, the pocket 168 may extend across less than a majority of the area of the upper portion 164. For example, the pocket 168 may extend across less than 50% of the area of the upper portion, or at least approximately one-third of the area of the upper portion 164, or at least approximately one-quarter of the area of the upper portion 164. Where the pocket 168 extends across less than a majority of the area of the upper portion 164, it may still have a relatively significant large volume, allowing the user to utilize the pocket to help organize packing articles within.

[0060] Where the pocket 168 extends across less than the entire area of the upper portion, the top rim 180 may be connected to the upper portion 164 not in alignment with the peripheral edge 178, or with only a portion of the top rim 180 coextensive with the peripheral edge. In some example, at least one, or at least two, or at least three, of the top edges 158 may be coextensive with the peripheral rim 178, and the other top edge(s) 158 may be attached in a way not coextensive with the peripheral edge 178. The pocket 168, where it is positioned under less than all of the upper portion 164, may be positioned centrally on the upper portion 164, or may be offset from the central location and positioned in other locations. The door panel 174 in these examples may be positioned in the upper portion 164 to provide access to the pocket 168.

[0061] The pocket 168 may extend across a majority of the area of the opening 134. As shown in Figs. 4, 5A and 5B, in this example the pocket 168 may extend across approximately at least 95% of the area of the opening 134. This extensive area of coverage may result in the pocket volume 170 having the same or substantially the same volume as the primary shell volume 150, in which case the user may elect to utilize only the pocket volume 170 where separation of the items between the primary shell volume 150 and the pocket volume 170 is not desired. In other examples, the pocket 168 may extend across one-half, or at least two-thirds, or at least three-quarters, or at least 80% or at least 90%, or at least 95% of the area of the opening 134. The lesser extent may still be useful for allowing the user to place a significant percentage of the overall articles to be packed into the shell 116 in the large-volume pocket 168.

[0062] The depth (Dpf) of the pocket, measured between the upper portion 164 and the floor panel 206 (when fully extended, such as when full of articles) may be approximately 145.5 mm, which is approximately the same dimension as the depth Ds of the shell 116. The depth (Dpf) of the pocket 168 may be in some examples less than the depth DS of the shell 116, or may be at least three-fourths, or at least two thirds, or at least one-half or at least one-third, or at least one-quarter of the depth (Ds) of the shell 116. In some examples, the floor panel 206 may be designed to be spaced above the main panel 104 when empty such as for example by at least 5 mm.

[0063] Regarding Fig. 5B, the pocket 168 may taper inwardly as it extends away from the upper portion 164 towards the main panel of the front shell 116. The panels 198 and 202 extend downwardly to the floor panel 206 with an inwardly directed angle. In this instance, the floor panel 206 may have a smaller length and width than the length and width at the top of the pocket. In one example, the floor panel 206 may have a length (Lf) of approximately 600mm and a width (Wf) of approximately 390mm.

[0064] The pocket volume 170 of the pocket 168 may have a maximum volume based on its dimensions, and a minimum volume when empty and collapsed. Where the pocket 168 extends across substantially the entire area of the upper portion 164, such as for example when the rim 180 of the pocket 168 is attached coextensively with the peripheral rim 178, the pocket volume 170 may range from approximately the same as, such as approximately 100% of, the primary shell volume 150 when the pocket 168 is filled to capacity, such as for example where the side panels 198 and end panels 202 engage the peripheral wall 126 of the front shell 116, and the floor panel 206 engages the major wall or main panel 104 of the front shell 116, to approximately 0% of the primary shell volume 150 when the pocket 168 is empty and is collapsed or collapsible against a bottom face of the upper portion 164. In many examples, when the pocket 168 is collapsed to its minimum volume, the divider 160 functions primarily as a separation panel dividing the interior chamber formed between the front and rear shells.

[0065] In other examples, the pocket volume 170 may be less than the primary shell volume 150 of the front shell 116, in which case either or both of the side panels 198 and/or either or both of the end panels 202 or any combination of side panels 198 or end panels 202 may be spaced away from the peripheral wall 126 of the front shell 116, such as when empty or partially loaded. In some examples the pocket volume 170 may be designed to be at its fullest extent at least approximately one-quarter or at least approximately one-third, or at least approximately one-half, or at least approximately two-thirds, or at least approximately three quarters, or approximately 100% of the primary shell volume 150. In one example, the pocket interior volume 170 may be configured to define a volume that corresponds to and is adapted to fill at least 50% of the primary shell volume 150 of the shell 116, 118 to which the divider 160 is fitted. In another example, the pocket 168 may correspond to and be adapted to fill the entirety of the primary shell volume 150 of the shell 116, to which the divider 160 is fitted, and forms a liner for the shell 116.

[0066] The pocket may be configured to be able to occupy or fill a portion of the primary shell volume, for example, as much as 50% or more of the primary shell volume. In other examples, it may fill at least as much as any one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% of the primary shell volume. The greater the percentage of shell volume filled, the more the contents of the shell 116 may be positioned in the pocket. In other examples, it may be configured to be able to occupy or fill a portion of the primary shell volume that is less than 50%, such as 40%, 33%, 25%, 10% or less of the primary shell volume 150. The designed size of the pocket volume 170 may be proportional to the portion of the area of the upper portion 164 across which the pocket 168 extends. For example, where the pocket 168 extends across one-half of the area of the upper portion 164, the pocket volume may be one-half of the size of the primary shell volume 150. In another example, the size of the pocket volume 170 may be unrelated to the portion of the area of the upper portion across which the pocket 168 extends. In one example, where the pocket 168 extends across one-half of the area of the upper portion 164, the pocket volume 170 may be approximately one-third the size of the primary shell volume. This may occur where the depth of the pocket is less than the example depth of 140mm provided above. In another example, where the pocket 168 extends across one-half of the area of the upper portion 164, the pocket volume 170 may be three-quarters the size of the primary shell volume 150. This may occur where the depth (Dpf) of the pocket is greater than the example depth of 140mm provided above, and the depth may be deeper than the depth (Ds) of the luggage shell 116. Because the pocket material is flexible, the pocket may distort in the luggage shell 116 to accommodate filling the pocket 168. In some examples, the pocket volume may be designed to be at least 50% of the primary shell volume 150, or may be designed to be at least 95% of the primary shell volume 150.

[0067] As shown in Fig. 5B, gap 182 may be formed between the side panels 198 and/or the end panels 202 of the peripheral wall 126, or both. In one example, the tapered shape of the pocket 168 may cause the gap 182 to increase in width as the pocket 168 extends downwardly towards the main panel 104 of the front shell 116. The increasing size of the gap 182 may help articles positioned in the pocket 168 stay spaced away from the peripheral wall 126 of the front shell 116. Additionally the divider 160, including the pocket 168, may be removed from the front shell 116 and replaced into the front shell 116 more conveniently given the overall wedge-shape of the pocket 168 when empty.

[0068] In another example, either or both of the side panels 198 and/or either or both of the end panels 202 or any combination of side panels or end panels may or may not contact the peripheral wall 126 of the front shell 116, such as when generally fully filled with articles. When the panels of the pocket 168 are in contact with the adjacent portion of the peripheral wall 126 and main panel 106 of the front shell 116, the pocket volume 170 of the pocket 168 may be the same as or substantially the same as the primary shell volume 150.

[0069] Fig. 6 shows the divider 160 when removed from the luggage shell 102. In this example a portion of the connection structure 186, the connecting feature 210, is shown extending from each of the corners 192 of the

upper portion 164. The divider 160 in this configuration may allow the front shell 116 to be packed more easily and/or in a more organized manner. The divider 160 in this configuration may also be packed at a location separate from the luggage case 102 and placed into and connected with the front shell 116 when ready. Divider 160 in this configuration may be removed for cleaning by hand or machine. In the example where the divider 160 includes no reinforcing structure, such as a frame or stays, may be easily machine-washed.

[0070] Referring to Figs. 7, 8 and 9, in some examples, more than one pocket is formed in the divider, with at least one of the plurality of pockets extending across a majority of the area of the opening 134 of the shell 116, and at least one pocket extending across less than a majority of the area of the opening 134 of the shell 116. In other examples, more than one pocket is formed in the divider 160, with at least one of the plurality of pockets extending across a majority of the area of the upper portion 164 of the divider 160, and at least one pocket extending across less than a majority of the area of the upper portion 164 of the divider 160. The more than one pockets may depend from the divider 160 to be positionable in the primary shell volume (see Figs. 7 and 8) when the divider 160 is positioned in the shell, or may be positioned to extend upwardly away from the divider 160 when the divider 160 is positioned in the shell (see Fig. 9).

[0071] As shown in Figs. 7, 8 and 9, three pockets are shown, with a first pocket 175 and two smaller pockets 177 and 179. The pockets may have the same or similar structure as the pocket 168 described above, with the main difference being their relative size, and the fact that there are more than one pocket 168 on the divider 160. The pockets 175, 177, and 179 may each include a zippered door panel 181, 183, and 185, respectively, to allow for access into the respective pocket. In one example, as shown in Figs. 7 and 8, each pocket 175, 177, and 179 may extend from a bottom surface of the upper portion 164 so as to be positionable in the primary shell volume when the divider 160 is positioned in the shell 116, as with some of the examples shown above. In one example, pocket 175 may have an area greater than 50% of the upper portion 164. In another example, pocket 175 may have an area great than 50% of the area of the opening 134 of the shell 116. Pockets 177, 179 may have an area of less than 50% of the area of the upper portion, either separately or together. In another example, pockets 177, 179 may have an area of less than 50% of the area of the opening 134 of the shell 116.

[0072] In another example, as shown in Fig. 9, more than one pocket, such as pockets 187, 189, may be included on the divider with the pockets being positioned to extend from an upper surface of the divider 160. Only one smaller pocket 189 is shown, however more than one smaller pocket 189 may extend from the divider 160. A pocket 168 may also extend from the lower surface of the upper portion 164 of the divider 160, as described elsewhere herein. The pockets 187, 189 may not be positionable in the primary shell volume when the divider 160 is positioned in the shell 116. In one example, pocket 187 may have an area greater than 50% of the upper portion 164. In another example, pocket 187 may have an area great than 50% of the area of the opening 134 of the shell 116. Pocket 189 may have an area of less than 50% of the area of the upper portion 164. In another example, pocket 189 may have an area of less than 50% of the area of the opening 134 of the shell 116.

[0073] In one example, the at least one pocket includes at least two pockets, and the at least two pockets are positioned on the divider on an upper surface of the upper portion or are positionable on the divider on a lower surface of the upper portion and positionable within the primary shell volume. Additionally, one of the at least two pockets may extends across a majority of the area of the upper portion. Additionally or alternatively, one of the at least two pockets extends across a majority of the area of the opening 134 of the shell 116.

[0074] At least one handle 176 may be positioned on the divider 160 to facilitate grasping the divider 160 for removal from or replacement into the shell 116. The at least one handle 176 may be positioned on the upper portion 164, or may be positioned elsewhere on the divider 160. As shown in Fig. 6, a handle 176 may be positioned at opposing ends of the upper portion 164 between the closure mechanism 148 and the peripheral edge 178. These locations allow a user to grasp one handle 176 in each hand and lift the divider 160 from the shell 116 (when the divider is disconnected from the shell 116), or place the divider 160 back into the shell 116. Because the handles 176 in this example are not located on the door panel 174, the handles 176 may be used whether or not the door panel 174 is open or closed. In the example shown, the handles 176 are lengths of material straps having their opposing ends secured to the upper portion 164, such as by stitching. Other handle structures may be utilized.

[0075] Figs. 10 to 13 show one example of the connection structure 186 for releasably attaching the divider 160 to the peripheral wall 126 of the front shell 116. The connection structure 186 in this example may be positioned at one or more locations around the peripheral wall 126 of the front shell 116 and the peripheral edge 178 of the divider 160 for securing the divider 160 to the front shell 116. The connection structure 186 may be positioned at more than one position along the height of the peripheral wall 126 of the front shell 116 facilitating the attachment of the divider 160 to the front shell 116. The connection structure 186 may include at least one connecting feature, or fitting, 210 attached to the divider 160, and at least one corresponding receiver bracket, or mounting, 214 on the front shell 116. The connecting feature 210 and the receiver bracket 214 define interengageable structures that allow the quick connection and disconnection of the divider 160 from the shell 116. The connecting feature 210 and the receiver bracket 214 may be selectively engageable such that the user may con-

nect them together to attach the divider 160 onto the shell 116, and may release them from one another to disengage the divider 160 from the shell 116. The receiver bracket 214 may be integrally molded with the front shell 116, or may be a separate structure attached to the front shell 116; both of which are described below. In one example, the peripheral wall 126 includes mountings 214, and the divider 160 includes corresponding fittings 210 configured to attach to the mountings to removably mount and attach the divider 160 to the peripheral wall 126. In another example, the connection structure 186 may include at least one connecting feature, or fitting, 210 attached to the front shell 116, and at least one corresponding receiver bracket, or mounting, 214 on the divider 160, which connection structure would operate in the same or similar manner as described herein.

[0076] As best shown in Fig. 10, the connecting feature 210 may include a first portion 218 for attachment to the divider 160 and a second portion 222 for releasably attaching to the receiver bracket 214. The first portion 218 may define an aperture 226 for receiving a loop 230 that attaches the connecting feature 210 to the divider 160. The loop 230 may be attached at least to a corner 192 or more than one corner 192 of the divider 160. In other examples, the connecting feature 210 may be attached to the divider 160 at any position, such as along the peripheral edge 178 between the corners 192, that corresponds to the location of the receiver bracket 214. Connecting features 210 may be attached to the upper portion 164 of the divider 160, or may be attached solely to or to any of a combination of a side panel 198, an end panel 202, or a corner region formed by the intersection of a side panel 198 and end panel 202 of the pocket 168.

[0077] The first portion of the connecting feature 210 also defines a key 234 that is shaped to be releasably received in the receiver bracket 214. In the example shown, the key 234 may be a short shaft or stud 238 with at least one radially-extending fin 242. In one example, the key 214 may have 4 radially extending fins 242 positioned at 90 degree intervals. Other shapes for releasably attaching with the receiver bracket 214 may be implemented.

[0078] Referring to Figs. 11 and 12, a receiver bracket 214 is shown engageable with the connecting feature 210. The receiver bracket 214 may be positioned on the shell 116 to correspond with the location of the connecting features 210 attached to the divider 160. In some examples, there may be the same number of receiver brackets 214 as connecting features 210, and in other examples there may be different number of receiver brackets 214 as connecting features 210. In the example shown, a receiver bracket 214 is positioned in each of the four corners 190 of the front shell 116, corresponding to the location of the connecting features 210 positioned on each of the four corners 192 of the divider 160.

[0079] Referring still to Figs. 11, 12, and 13, the receiver bracket 214 may be integrally formed with the luggage case 102. In one example, the receiver bracket 214 may extend along a height of the peripheral wall 126 of the front shell 116. The receiver bracket 214 may be integrally formed together with the collar 136. The receiver brackets 214 may integrate the collar, and may extend downwardly from the collar 136 in the corners 190. The receiver brackets 214 may be integrated into the collar 136. The injection molding formation of the receiver bracket 214 to make it an integral part of the structure of the luggage case reduces the labor and expense associated with attaching separate receiver brackets into the luggage case once it is formed. Along with the collar 136, the injection molding formation of the receiver bracket 214 and collar 136 together with the luggage case may increase the strength and stiffness of the peripheral rim 132 and the peripheral wall 126.

[0080] In one example, the receiver bracket 214 may extend downwardly from the collar 136 towards the main panel 104 of the luggage shell 116. The receiver bracket 214, collar 136, and webs 250 may be formed together with the luggage shell 116 by injection molding. The receiver bracket 214 may define a plurality of attachment points 258 positioned along the length of the receiver bracket 214, and which may also be positioned on the collar 136, to provide different positions for securing the divider 160 along the height of the peripheral wall 126, which corresponds to the distance above the main panel 104 of the shell 116 at which the upper panel 164 of the divider 160 is positioned. In one example, the top attachment point 258 may be formed in the collar 136, which is integrated into the receiver bracket 214, and other attachment points 258 may be formed in the receiver bracket 214 below where it extends away from the collar 136. In one example, the top attachment point 258 is approximately 130 mm above the main panel 104. In one example, another attachment point 258 is positioned lower than the top attachment point, and is approximately 119 mm above the main panel 104. In other examples, the attachment points may be spaced apart approximately 21 mm. In another example, the receiver bracket 214 may be integrally formed with the shell 116, without the collar 136, and may be spaced apart from the peripheral wall 126 of the front shell by at least one webbing 250.

[0081] In the example shown, the receiver bracket 214 may extend from approximately the peripheral rim 132 of the peripheral wall 126, and may extend partially or entirely towards the major wall or main panel 104 of the shell 116. The receiver bracket 214 may define one or more than one attachment point 258 for engaging with the corresponding connecting feature 210. The attachment point 258 may be in the form of an aperture having a complimentary shape to the key 234 of the connecting feature 210, and may selectively and removably attach with the connecting feature 210.

[0082] In one example, the attachment point 258 may include a lobed aperture 262 shaped to correspond to and receive the key 234. The key 234 may be inserted into the attachment point 258 with the at least one fin 242 passing through a corresponding lobe sufficiently far that

the connecting feature 210 may be axially rotated slightly to mis-align the fin 242 with the lobe to retain the key 234 in the attachment point 258. Alternatively, the key 234 and the attachment point 258 may have different inter-engagement structure than the structure described above which requires an insert-and-rotate motion.

[0083] Referring to Fig. 14, in another example, connection structure 186 may include a receiver bracket 214' that is a formed separately and then connected to the shell 116 at the desired location(s). The separate receiver bracket 214' may include one or more attachment points 258 that may have the same structure and function as described above. The separate receiver bracket 214' may be mounted in a variety of locations around the peripheral wall 126 of the shell 116. The separate receiver bracket 214' may be attached to the shell 116 by use of fasteners, adhesive, snap-on structure or other suitable means. The separate receiver bracket 214' may allow the modification of the number of mounting locations for a receiver bracket 214 on a shell 116 and thus provide a convenience in the manufacturing of the shell because the mounting locations may not require predetermining the locations, as in the example where the receiver bracket 214 is injection molded in place together with the shell 116.

[0084] Turning to Figs. 15A to 17B, additional examples of the connection structure 186' are depicted. The connection structures 186' depicted may similarly couple a divider 160' to a shell 116', as discussed herein with respect to the connection structures 186. The connection structures 186' may include selectively engageable and corresponding fittings 210' and mountings 214'. While the fittings 210' or mountings 214' may be described as being coupled to (e.g. attached to or defined by) one of the shell 116' or divider 160', it is appreciated that either of the fittings 210' or mountings 214' may be defined by or attached to either of the shell 116' or divider 160' unless specifically provided otherwise.

[0085] Turning to FIGS. 15A to 17B, additional examples of the improved luggage case 102 described herein are depicted. For example, the luggage case 102 may include a removable divider 160', 160", 160‴ including an upper portion 164', 164", 164'" extending across the opening 134 of the shell 116', 116", 116'", as may be previously described herein. For example, the divider 160', 160", 160‴ may be removably attached to a peripheral wall 126', 128", 128‴ of the shell 116', 116", 116'". Additionally or alternatively, in some examples, the peripheral edge 178', 178", 178‴ of the upper portion 164', 164", 164"' of the divider 160', 160", 160‴, or a feature located at or adjacent the peripheral edge 178', 178", 178‴, is removably attachable to the peripheral wall 126', 128", 128'" at or adjacent the peripheral rim 132', 132", 132‴. Additionally or alternatively, in some examples, the peripheral edge 178', 178", 178‴ of the upper portion 164', 164", 164'" is fitted closely with and adjacent to the peripheral wall 126', 128", 128'".

[0086] The divider 160', 160", 160‴ may include a pocket 168', 168", 168'" positioned below the upper portion 164', 164", 164'" and extending into the luggage shell 116', 116", 116‴. For example, the pocket 168', 168", 168'" may have an interior volume 170', 170", 170'". The pocket 168', 168", 168'" may encompass a large portion of the internal compartment of the luggage shell 116', 116", 116‴. In one example, the pocket 168', 168", 168'" interior volume 170', 170", 170'" is at least 50% of the volume 150', 150", 150'" of the shell 116', 116", 116'". The divider may be adjustable to different vertical positions within the luggage shell. In some examples, the divider 160', 160", 160‴ may be flexible to better facilitate removal from the luggage case 102, improved flexibility for covering articles, or enhance washing the divider 160', 160", 160‴.

[0087] Referring to FIGS. 15A and 15B, an example of the connection structure 186' is shown. The connection structure 186' may include a connecting feature or fitting 210' engageable with a corresponding receiving feature or mounting 214'. The fitting 210' and the mounting 214' may be selectively engaged to secure the divider 160' to the shell 116'. In one example, the connection structure 186' is a snap or press fastener defined by the fitting 210' and the mounting 214'. The fitting 210' and/or mounting 214' may be arranged to correspondingly extend horizontally, such as in one example orthogonally, from the shell 116' and divider 160'. In one example, as shown in Fig. 15B, the fitting 210' and/or mounting 214' may extend from the peripheral wall 126'of the shell 116' or the long side panels 198' or end panels 202' of the divider 160', respectively.

[0088] The fitting 210' may include a first fastener portion 218'. The first fastener portion 218' may be a male or female portion of a snap fastener. In one example, the first fastener portion 218' is a connecting or male feature. The fitting 210' may include a first extension portion 222' extending from the divider 160' or shell 116'. In one example, the first extension portion 222' extends from the divider 160'. The first extension 222' may be a flexible or fabric material. The first fastener portion 218' may be attached to the first extension 222'. The first fastener portion 218' may be exposed on at least one side of the first extension 222'. The fitting 210' may be oriented to extend laterally relative to the shell 116'. In one example, the fitting 210' may extend horizontally, such as in one example orthogonally, relative to the shell 116'. In some examples the fitting 210' may be attached at least to a corner 192' of the divider 160'. In some examples, a fitting 210' may be coupled to each of more than one corner 192' of the divider 160'. In other examples, the fitting 210' may be attached to the divider 160' at any position, such as along or adjacent the peripheral edge 178'or between the corners 192' of the divider 160', or both, that corresponds to the location of the mounting 214'.

[0089] The mounting 214' may include a second fastener portion 220'. The mounting 214', may define the attachment point 258'to connect the divider 160' to the shell 116'. The attachment point 258' may be defined by

the second fastener portion 220'. The second fastener portion 220' may be a male or female portion of a snap fastener corresponding to the first fastener portion 218'. In one example, the second fastener portion 220' is a receiving or female feature. For example, the second fastener portion 220' may be shaped to receive and retain the first fastener portion 220'. The second extension portion 224' may be a flexible or fabric material. The second fastener portion 220' may be attached to the second extension 224'. In one example, the second extension extends laterally from the shell 116'. For example, the mounting 214' may be oriented horizontally, such as for example orthogonally relative to the shell 116'.

[0090] To attach the mounting 214' to the shell 116', the second extension portion 224' may be coupled to (e.g. attached to or formed with) the shell 116'. In one example, the second extension portion 224' may be attached by stitching 228'. In some examples, the second extension portion 224' may be attached by an adhesive, fastener, or other structure. For example, the closure mechanism 128' may include a zipper tape and the zipper tape and second extension portion 224' may be attached to the peripheral wall 126' together by the stitching 228'. In some examples, the mounting 214' may be attached at least to a corner 190' of the shell 116', such as to the peripheral wall 126'. In some examples, a mounting 214' may be attached in more than one corner 190' of the shell 116'. In other examples, the mounting 214' may be attached to the shell 116' or peripheral wall 126' at any position, such as along or adjacent peripheral rim 132' or between the corners 190', or both, that corresponds to the location of the mounting 214'. The mounting 214' may be positioned on the peripheral wall 126' adjacent to or below the peripheral rim 132'.

[0091] To attach the divider 160' to the shell 116', the fitting 210' may be selectively engaged with the mounting 214' to define the connection structure 186'. For example, the first fastener portion 218' may be coupled with the second fastener portion 220'. In some examples, the first extension portion 222' and the second extension portion 224' may similarly align or overlap. In one example, the engagement is a snap fit. The selective snap coupling of the connection structure 186' of FIGS. 15A and 15B may facilitate quick attachment to or removal of the divider 160' to the shell 116'.

[0092] Referring to FIGS. 16A and 16B, an example of the connection structure 186" is shown. The connection structure 186" illustrated in FIGS. 16A and 16B may be snap structure or fastener similar to the example connection structure 186' illustrated in FIGS. 15A and 15B. For example, the connection structure 186" may include a fitting 210" and a mounting 214" to selectively couple a divider 160" to a shell 116". The connection structure 186" of FIGS. 16A and 16B may be positioned facially on the shell, such as in one example it is oriented vertically relative to the shell 116". In another example, the connection structure 186" may be positioned facially on the peripheral wall 126", which in at least one example is also parallel to the peripheral wall 126". The connection structure 186" may be positioned at the corners 190" and 192" of the shell 116" and the divider 160", respectively.

[0093] The fitting 210" may include a first connection portion 218" defining a male or female portion of a snap fastener. The first connection portion 218" may be attached to the divider 160". For example, the first connection may extend from or extend through the divider 160". The fitting 210" may be oriented vertically relative to the divider 160", such as by being mounted facially on the divider 160".

[0094] The mounting 214" may include a second connection portion 220' defining a male or female portion of a snap fastener corresponding to the first connection portion 218". The connection portion 220" may be oriented vertically or extend along a portion of the height of the peripheral wall 126", such as by being mounted facially on the peripheral wall. The second connection portion 220" may be secured by a coupling extension 224" to the shell 116". In some examples, the connection portion 220" may be embedded in the shell 116", such as in a recess or moulded to the peripheral wall 126". The mounting 214", such as the second fastener portion 220", may define the attachment point 258" to connect the divider 160" to the shell 116".

[0095] To attach the divider 160" to the shell 116", the fitting 210" may be selectively engaged with the mounting 214" in a vertical alignment to define the connection structure 186". The vertical alignment may reduce the size of a gap 182" defined between the divider 160" and the peripheral wall 126" of the shell 116". For example, the peripheral edge 178" may be positioned against or in close proximity to the peripheral wall 126". Accordingly, the length (Lu) or width (Wu) dimensions, shown in FIG. 5A and FIG. 6, of the divider 160" may be increased to increase the volume 170" of the pocket 168" defined by the divider 160".

[0096] Referring to FIGS. 17A and 17B, an example of the connection structure 186‴ is shown. The connection structure 186‴ of FIGS. 17A and 17B may be defined by engagement of a catch or hook-like structure and receiving structure. For example, the fitting 210‴ may be hook shaped and correspondingly engage with a mounting 214‴ arranged to receive the hook shaped fitting 210‴ .

[0097] The fitting 210‴ may include a first connection portion 218‴. The fitting 210‴ may define the attachment point 258‴ to connect the divider 160‴ to the shell 116‴ . In one example, the first connection portion 218‴ is a connecting feature. The first connection portion 218‴ may define a catch portion, such as for example a hook shaped structure, to engage with the mounting 214‴. For example, the first connection portion 218‴ may define a slot 221‴. In one example the slot 221‴ may be directed towards the wall 126‴ of the shell 116‴. In some examples, the fitting 210‴ may be attached to the shell 116‴, such as the peripheral wall 126"'. The mounting 214‴ may be releasably received in the slot 221‴. The fitting

210‴ may include or define a securement portion 232‴ to couple to the peripheral wall 126‴. In one example, the securement portion 232‴ defines a channel 223‴ that receives the peripheral rim 132‴. The securement portion 232‴ or fitting 210‴ may be secured to the peripheral wall 126‴ by a fastener 236‴. In some examples, the closure mechanism 128‴ may be coupled to the peripheral wall 126‴ at or adjacent the fitting 210‴ and at least partially cover or conceal the securement portion 232‴. In some examples, the securement portion 232‴ may assist in aligning the fitting 210‴ on the shell 116‴, such as on the peripheral rim 132‴, during assembly or manufacturing. The fitting 210‴ may be a rigid or semi rigid structure. The fitting 210‴ may be positioned or attached to a corner 190‴ of the shell 116‴.

[0098] The mounting 214‴ may include or define a second connection portion 220‴. The second connection portion 220‴ may be a structure shaped to selectively engage the first connection portion 218‴. In one example, the second connection portion 220‴ may define an aperture 226‴, such as for instance a loop or ring. In some examples, the second connection portion 220‴ may be a rigid, semi-rigid, or flexible material. For example, the second connection portion 220‴ may include metal or plastics, or may be a fabric portion extending from the divider 160‴. Accordingly, the mounting 214‴ may be a receiving feature. The mounting 214"' may be coupled to (e.g. defined by or attached to) the divider 160‴. The mounting 214‴ may be attached to the divider 160‴ at any position, such as along or adjacent the peripheral edge 178‴ or between the corners 192‴ of the divider 160‴.

[0099] To attach the divider 160‴ to the shell 116"', the fitting 210‴ may be selectively engaged with the mounting 214‴ to define the connection structure 186‴. In one example, the divider 160‴ may be attached to the shell 116‴ by aligning the second connection portion 220‴ in the channel 223‴. The second connection portion 220‴ may then be received or retained in the slot 221‴. The first connection portion 218‴ may be correspondingly positioned in the aperture 226‴. In such a configuration, the divider 160‴ may be under tension to maintain engagement of the fitting 210‴ and the mounting 214‴. The connection structure 186‴ may facilitate quick removal or attachment of the divider 160‴ and the shell 116‴.

[0100] All relative and directional references (including: upper, lower, upward, downward, left, right, leftward, rightward, top, bottom, side, above, below, front, middle, back, vertical, horizontal, and so forth) are given by way of example to aid the reader's understanding of the particular examples described herein. They should not be read to be requirements or limitations, particularly as to the position, orientation, or use unless specifically set forth in the claims. Connection references (e.g., attached, coupled, connected, joined, and the like) are to be construed broadly and may include intermediate members between a connection of elements and relative movement between elements. As such, connection references do not necessarily infer that two elements are directly connected and in fixed relation to each other, unless specifically set forth in the claims.

[0101] Those skilled in the art will appreciate that the presently disclosed examples teach by way of example and not by limitation. Therefore, the matter contained in the above description or shown in the accompanying drawings should be interpreted as illustrative and not in a limiting sense. The following claims are intended to cover all generic and specific features described herein, as well as all statements of the scope of the present method and system, which, as a matter of language, might be said to fall there between.

Claims

1. A luggage case (102) comprising:

   a pair of shells (116, 118, 116', 116", 116‴) pivotally connected to move between an open position and a closed position,
   each shell (116, 118, 116', 116", 116‴) defining a major wall (104, 106) and a peripheral wall (126, 126', 126", 126‴) defining a peripheral rim (132, 132', 132", 132‴), the major wall (104, 106) and the peripheral wall (126, 126', 126", 126‴) together defining a primary interior shell volume (150, 150', 150", 150‴), and the peripheral rim (132, 132', 132", 132‴) defining an opening (134);
   a flexible divider panel (160, 160', 160", 160‴) defining a peripheral edge (178, 178', 178", 178‴) and removably attachable to the peripheral wall (126, 126', 126", 126‴) of the first shell (116, 118, 116', 116", 116‴) at least one corner (190, 190', 190", 190‴) and including an upper panel portion (164, 164', 164", 164‴) extending across the opening (134) and at least one pocket (168, 168', 168", 168‴) defining a pocket interior volume (170, 170', 170", 170‴) of at least 50% of the primary interior shell volume (150, 150', 150", 150‴), the pocket (168, 168', 168", 168‴) configured to extend across at least a majority of the area of the upper panel portion (164, 164', 164", 164‴).

2. The luggage case (102) of claim 1, wherein the pocket (168, 168', 168", 168‴) may extend at least as much as one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% across the area of the upper panel portion (164, 164', 164", 164‴).

3. The luggage case (102) of any of claims 1 or 2, wherein the pocket (168, 168', 168", 168‴) extends across substantially all of the opening (134) of the shell (116, 118, 116', 116", 116"').

4. The luggage case (102) of any of claims 1 to 3, wherein the upper panel portion (164, 164', 164", 164‴) may extend at least as much as one of 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% and 100% across the area of the opening (134) of the shell (116, 118, 116', 116", 116‴).

5. The luggage case (102) of claim 4, wherein the upper panel portion (164, 164', 164", 164‴) extends across substantially all of the opening (134).

6. The luggage case (102) of any of claim 1 to 5, wherein the peripheral edge (178, 178', 178", 178‴) is removably attachable to the peripheral rim (132, 132', 132", 132‴) of the peripheral wall (126), or the peripheral edge (178, 178', 178", 178‴) of the upper portion (164, 164', 164", 164‴) is fitted closely with and adjacent to the peripheral wall (126, 126', 126", 126‴).

7. The luggage case (102) of any of claims 1 to 6, wherein at least one handle (176) is attached to the divider (160, 160', 160", 160‴).

8. The luggage case (102) of any of claims 1 to 7, wherein the flexible divider panel (160, 160', 160", 160‴) is flexible and includes no structural reinforcement.

9. The luggage case (102) of any of claims 1 to 8, wherein an opening is formed in the upper panel portion (164, 164', 164", 164‴) for opening into the pocket (168, 168', 168", 168‴).

10. The luggage case (102) of any of claims 1 to 9, wherein a top rim (180) of a panel (198, 202, 198', 202') of the pocket (168, 168', 168", 168‴) is not aligned with at least one portion of the peripheral edge (178, 178', 178", 178‴).

11. The luggage case (102) of any of claims 1 to 10, wherein:
the upper panel portion (164, 164', 164", 164‴) of the flexible divider panel (160, 160', 160", 160‴) is taughtly suspendable across the opening (134) adjacent to the peripheral rim (132, 132', 132", 132‴) or the peripheral wall (126, 126', 126", 126‴).

12. The luggage case (102) of any of claims 1 to 11, further comprising:

a connection structure (186, 186', 186", 186‴) configured to connect the flexible divider panel (160) with the shell (116, 118, 116', 116", 116‴) at variable heights above the major face (104, 106), including at least one connecting feature (210, 210', 210", 210‴) and a corresponding receiver bracket (214, 214', 214", 214‴), and
wherein
the connecting feature (210, 210', 210", 210‴) is removably receivable in at least one of a corresponding attachment point (258, 258', 258", 258‴) formed on the receiver bracket (214, 214', 214", 214‴).

13. The luggage case (102) of claim 12, wherein the receiver bracket (214, 214', 214", 214‴) is integrally formed with the shell (116, 118, 116', 116", 116"').

14. The luggage case (102) of any of claims 1 to 11, further comprising:
a connection structure (186, 186', 186", 186‴) configured to couple the flexible divider panel (160, 160', 160", 160‴) to the shell (116, 118, 116', 116", 116‴) comprising:

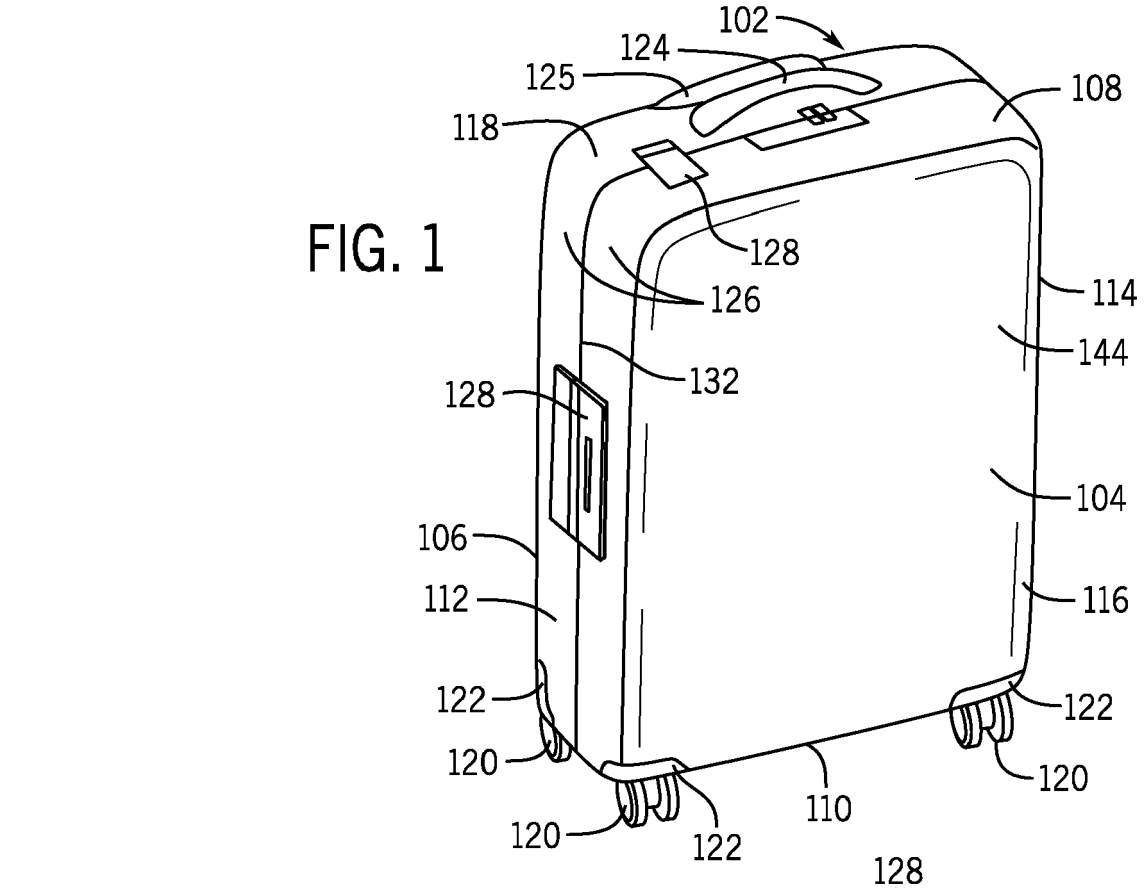
a fitting (210, 210', 210", 210‴) defining a connecting feature, and
a mounting (214, 214', 214", 214‴) defining a receiving feature,
wherein:

at least one of the fitting (210, 210', 210", 210‴ or the mounting (214, 214', 214", 214‴) is attached to the shell (116, 118, 116', 116", 116‴),
the other of the fitting (210, 210', 210", 210‴) or the mounting (214, 214', 214", 214‴) is attached to the divider panel (160, 160', 160", 160‴), and
the fitting (210, 210', 210", 210‴) selectively couples with the mounting (214, 214', 214", 214‴) to couple the flexible divider panel (160, 160', 160", 160‴) to the shell (116, 118, 116', 116", 116‴).

15. The luggage case (102) of claim 14, wherein:

the at least one of the fitting (210, 210', 210", 210‴) or the mounting (214, 214', 214", 214‴) is attached to the corner (190, 190', 190", 190‴) of the shell (116, 118, 116', 116", 116‴), and
the other of the fitting (210, 210', 210", 210‴) or the mounting (214, 214', 214", 214‴) is attached to a corner (192, 192') of the flexible divider panel (160, 160', 160", 160‴).

FIG. 1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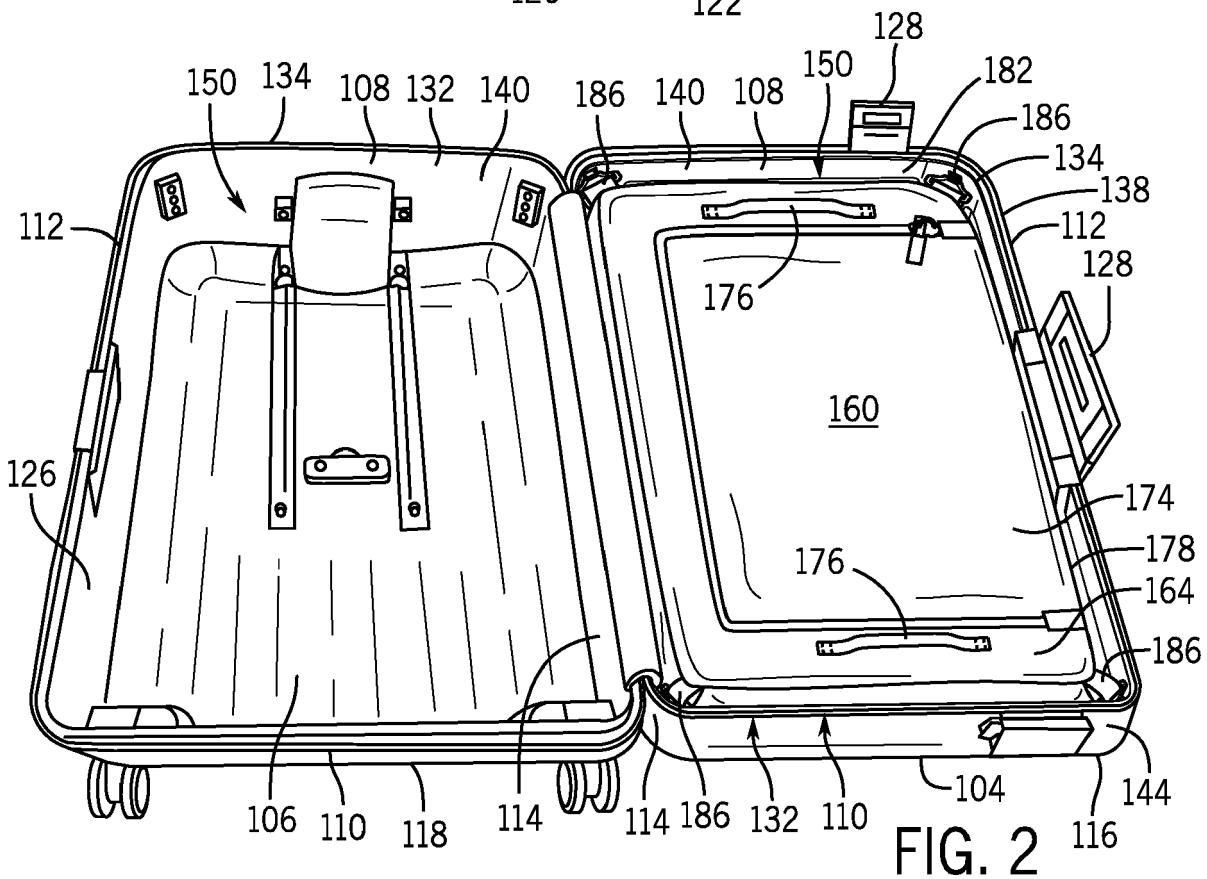
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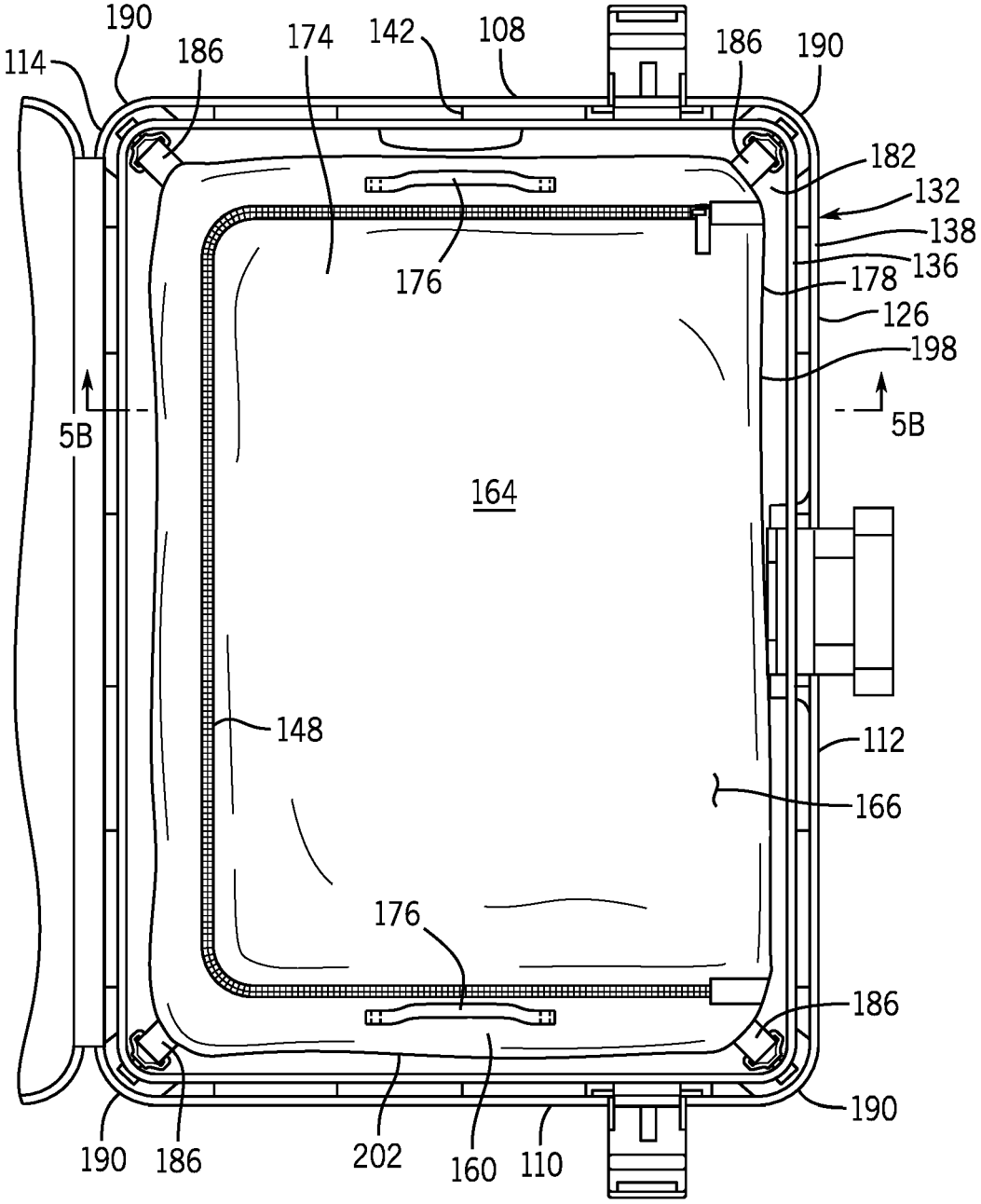
116

FIG. 2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138
136
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164
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112
166
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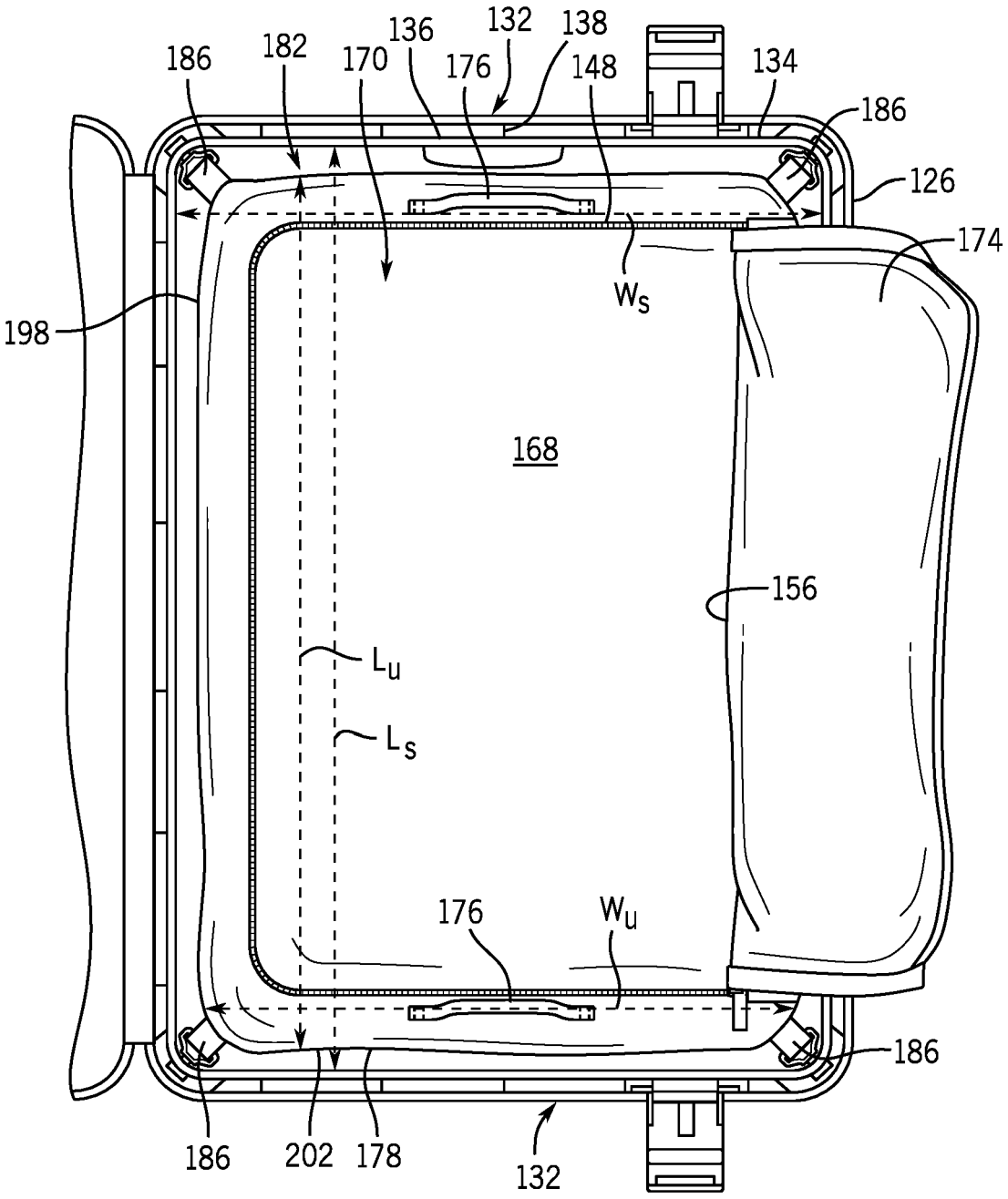
FIG. 3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182
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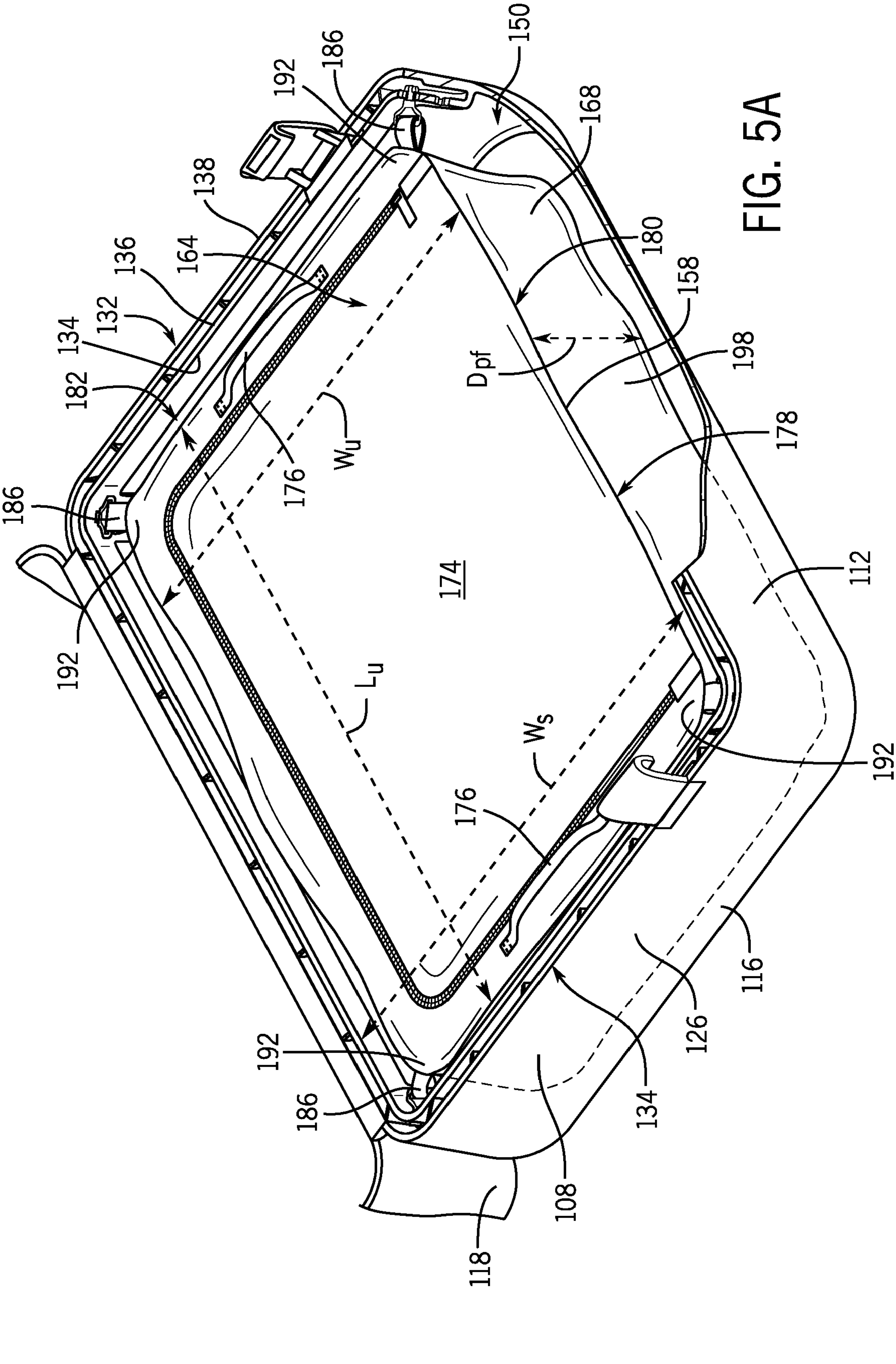
136
176
132
138
148
134
186
126
174
198
W_s
168
156
L_u
L_s
176
W_u
186
186
202
178
132

FIG. 4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180
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D_{pf}
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W_s
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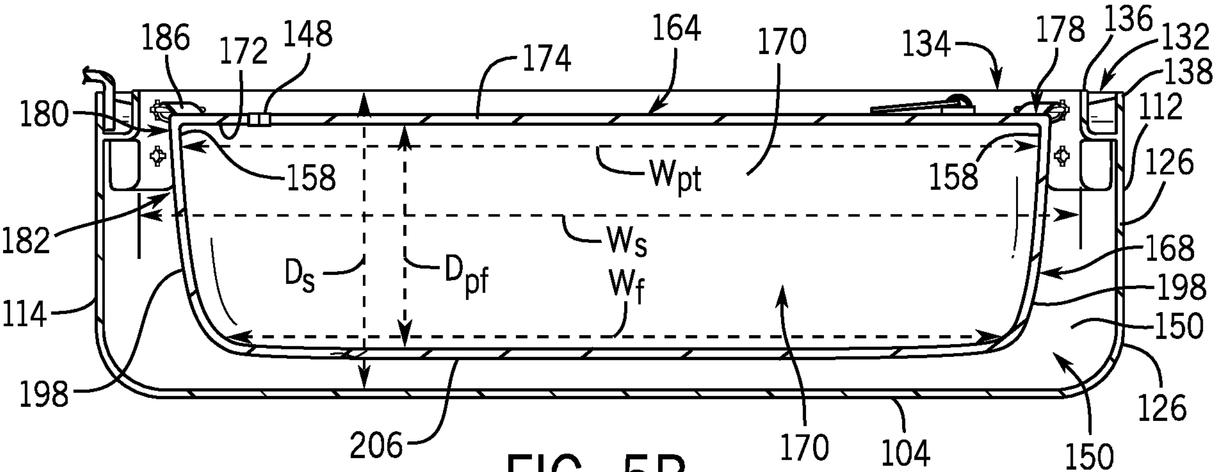
FIG. 5A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112
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D_s
D_{pf}
W_f
198
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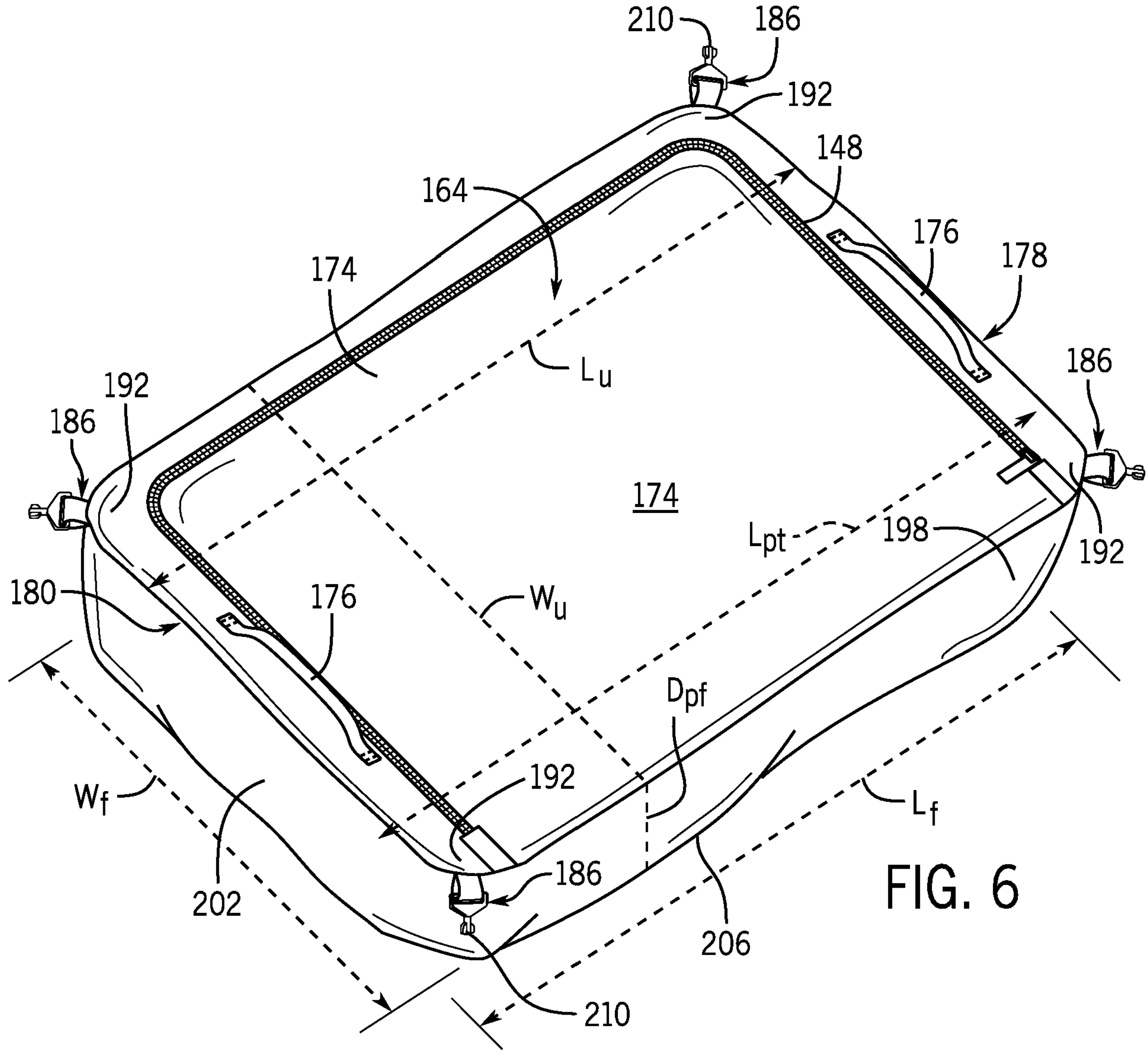
126
206
170
104
150

FIG. 5B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164
176
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L_u
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W_u
D_{pf}
192
W_f
L_f
186
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210

FIG. 6

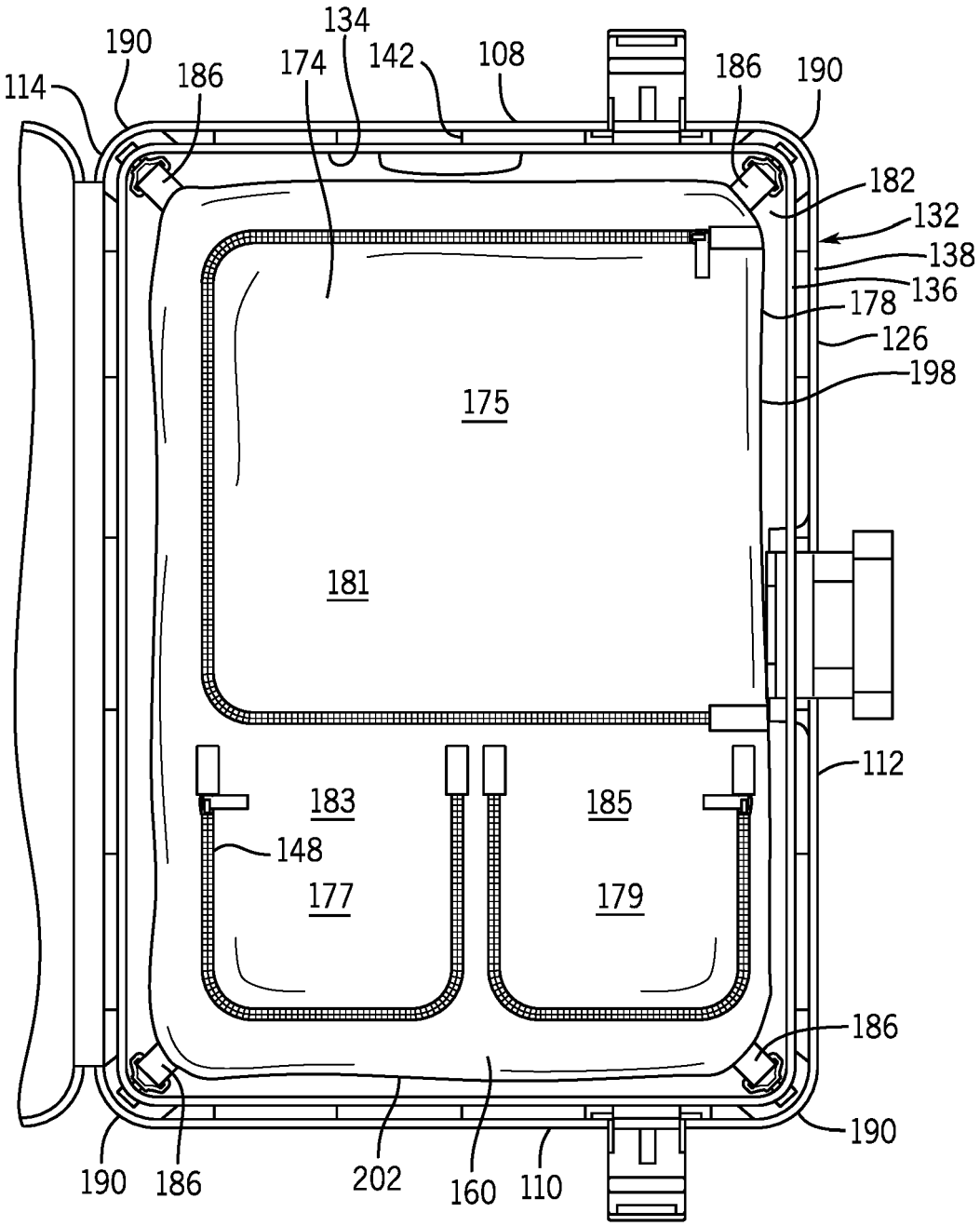
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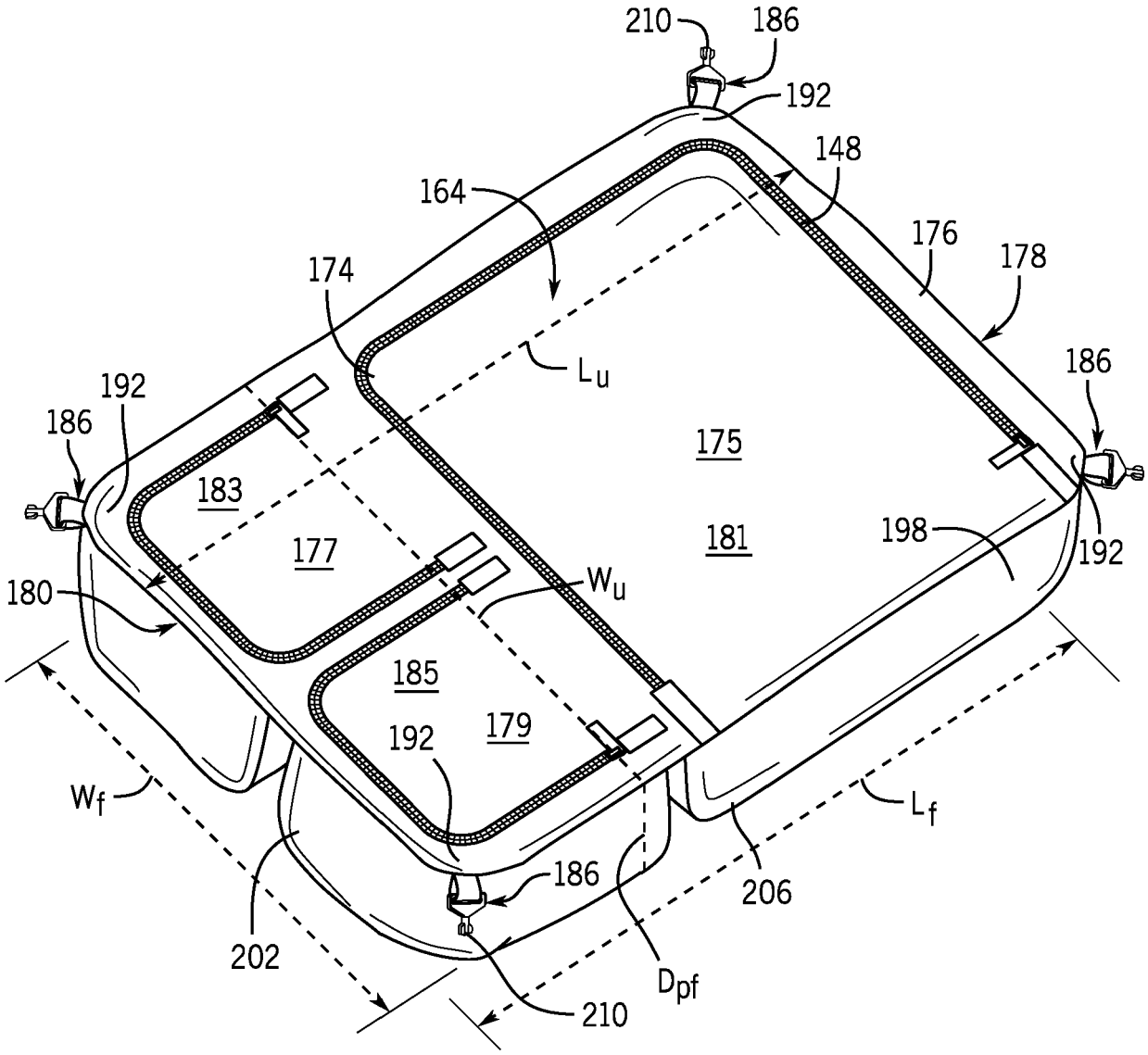
FIG. 7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W_u
185
192
179
W_f
L_f
186
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202
D_{pf}
210

FIG. 8

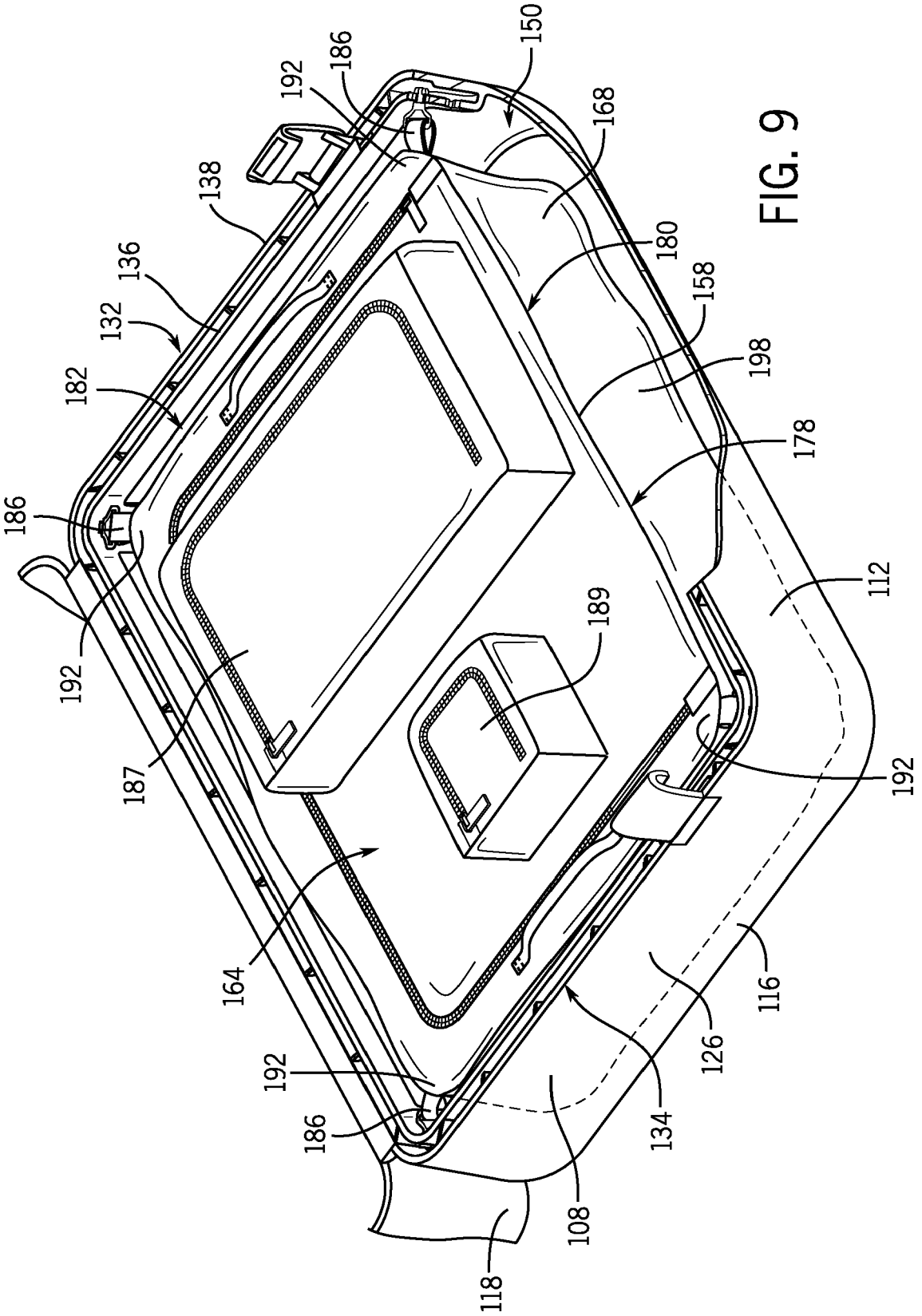
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FIG. 9

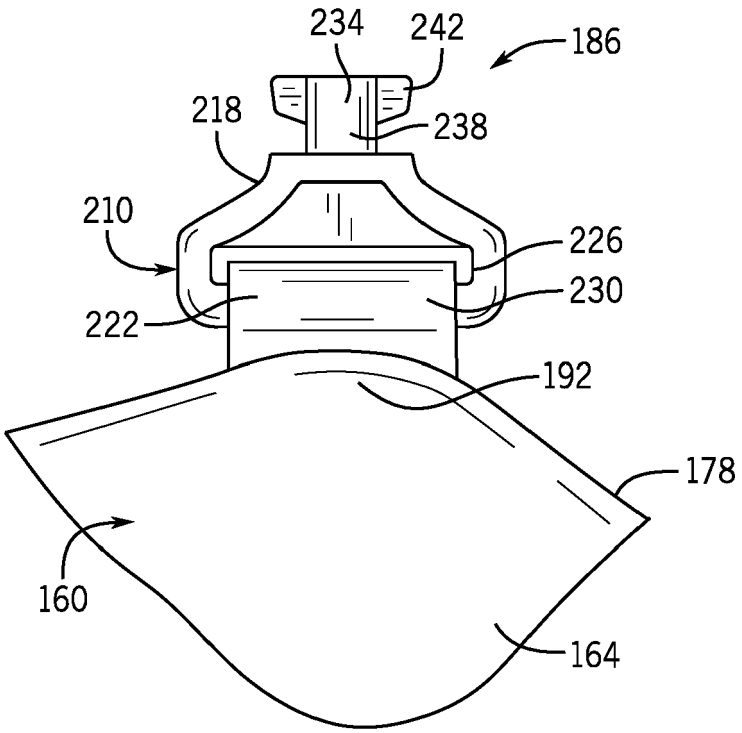

FIG. 10

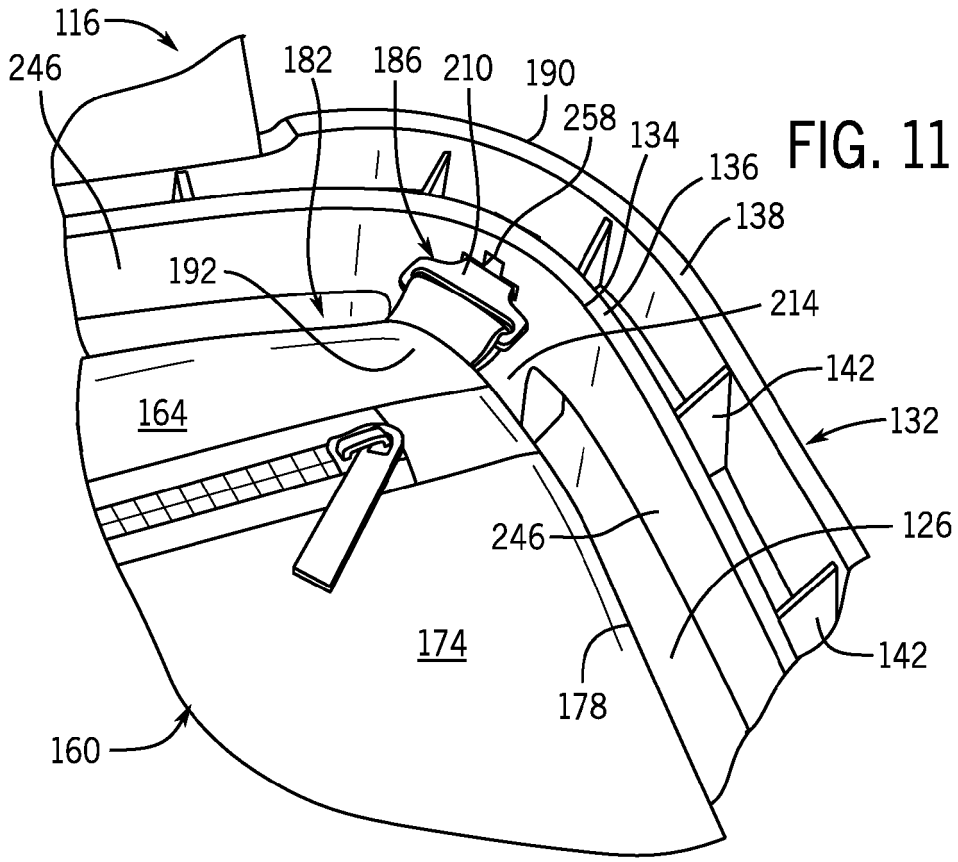
116
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FIG. 11

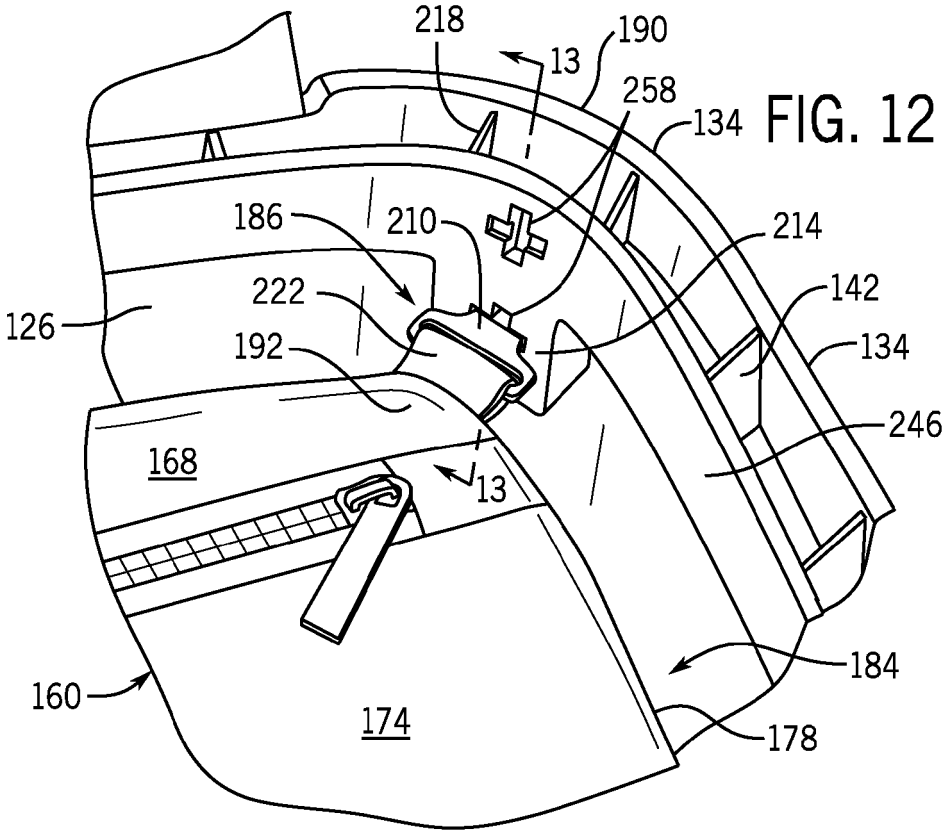
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FIG. 12

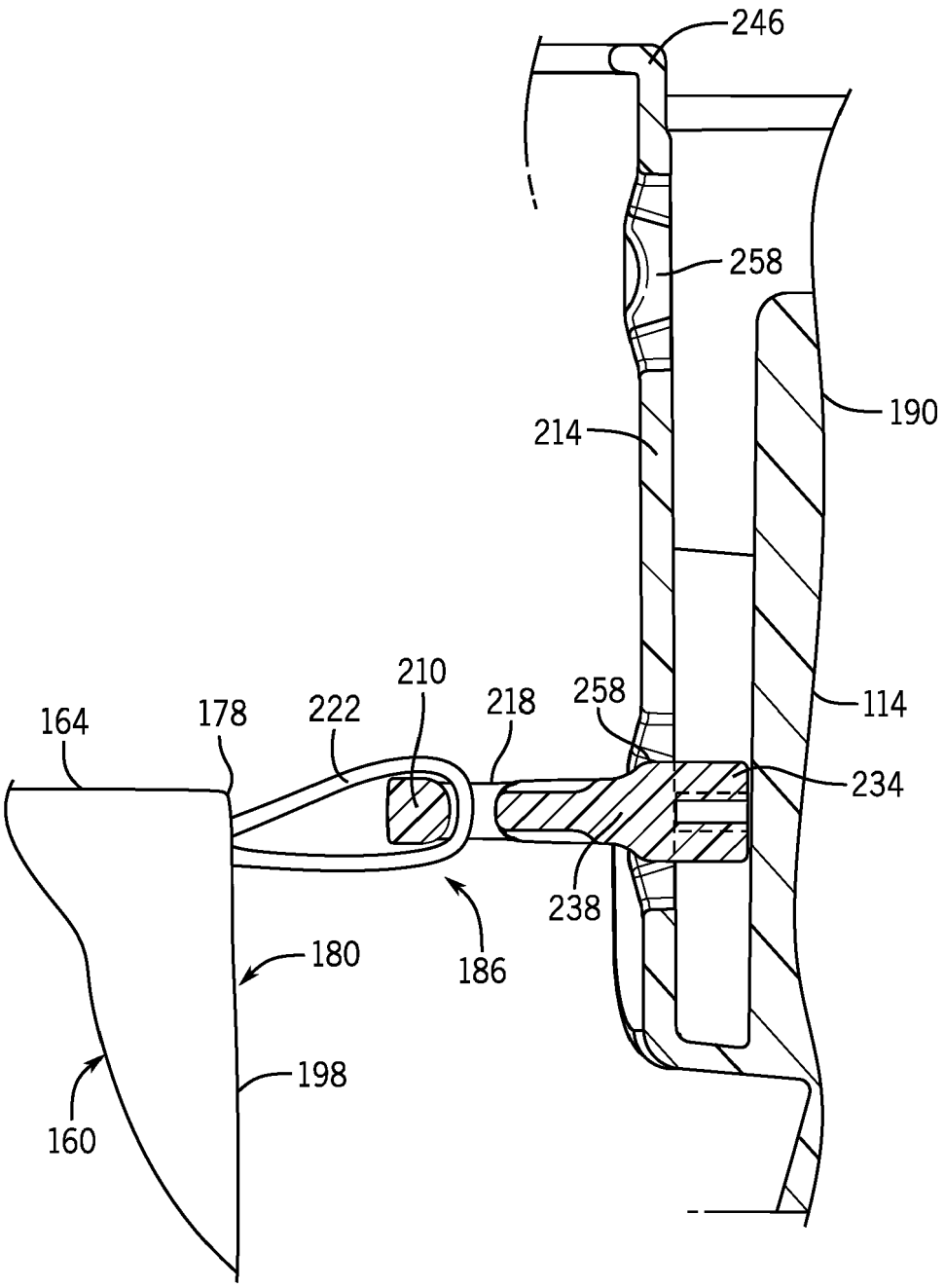
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FIG. 13

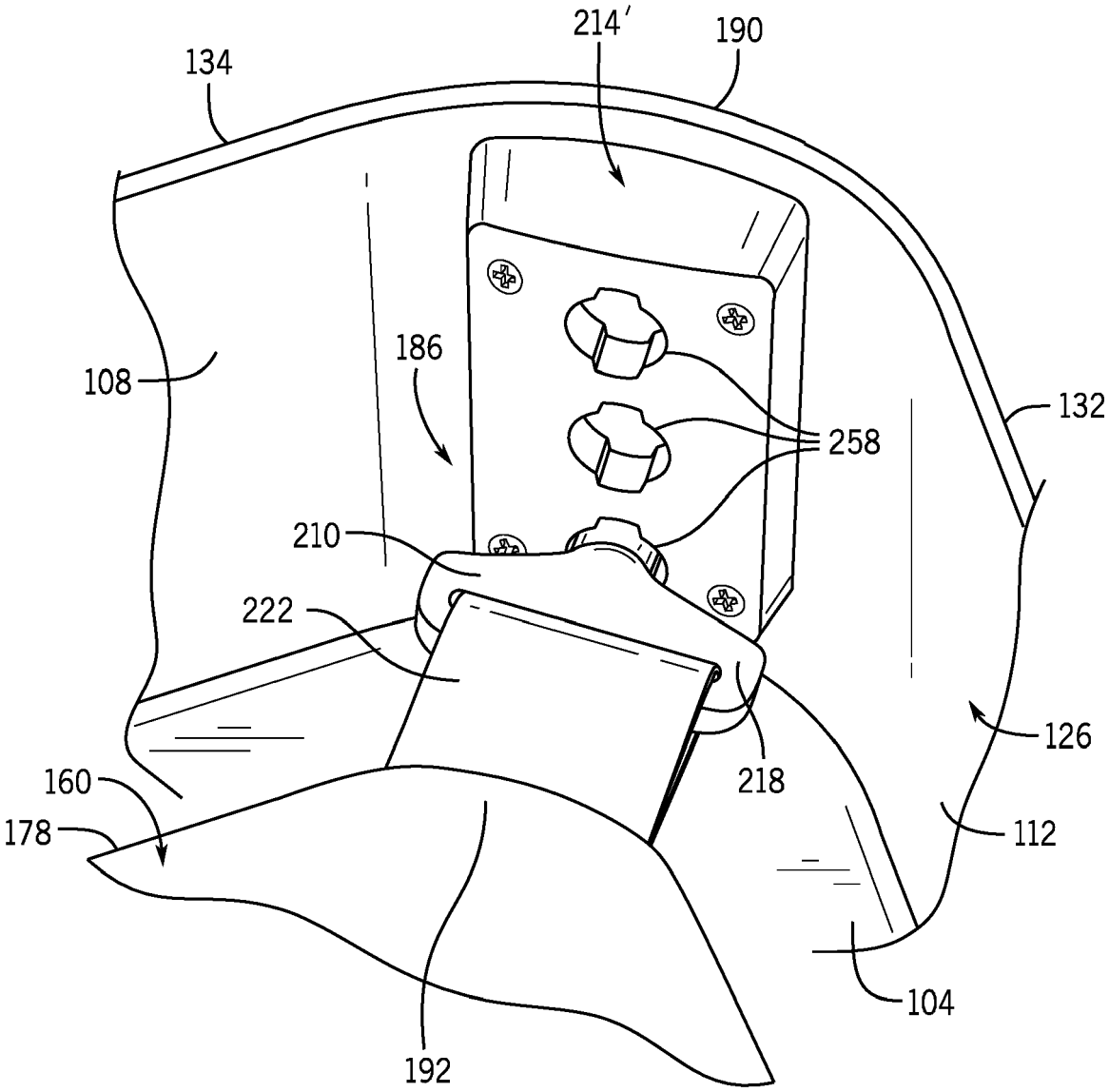

FIG. 14

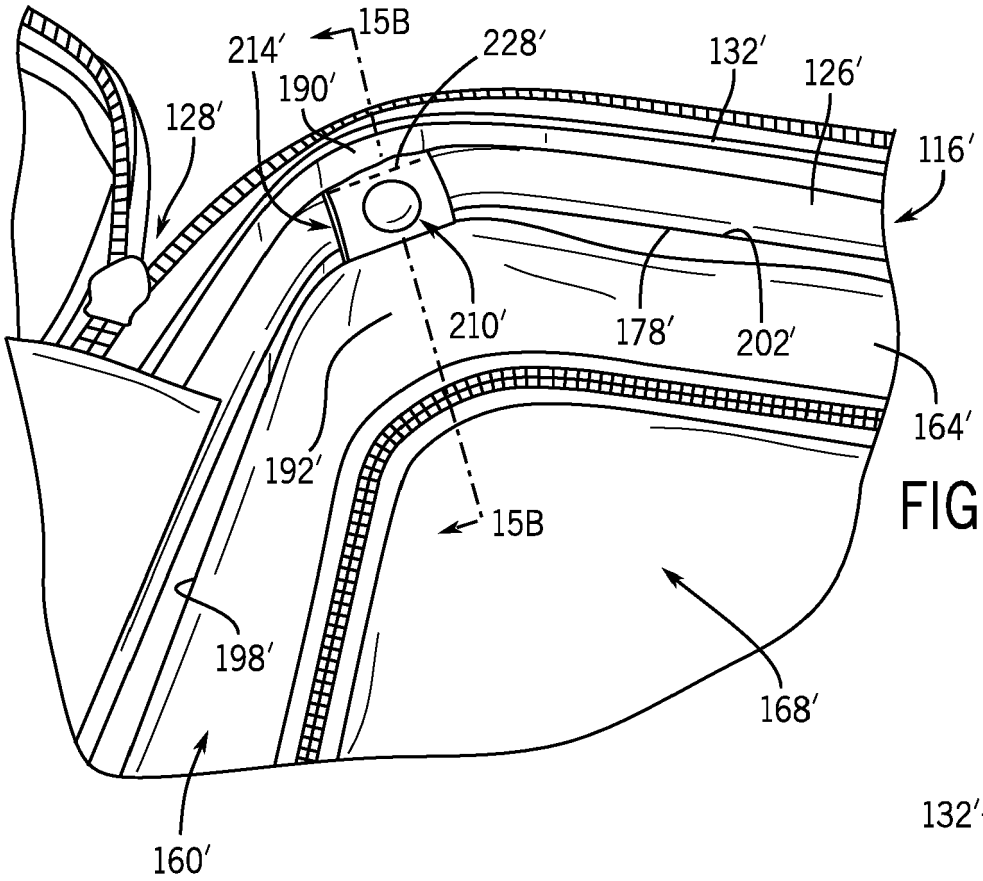

FIG. 15A

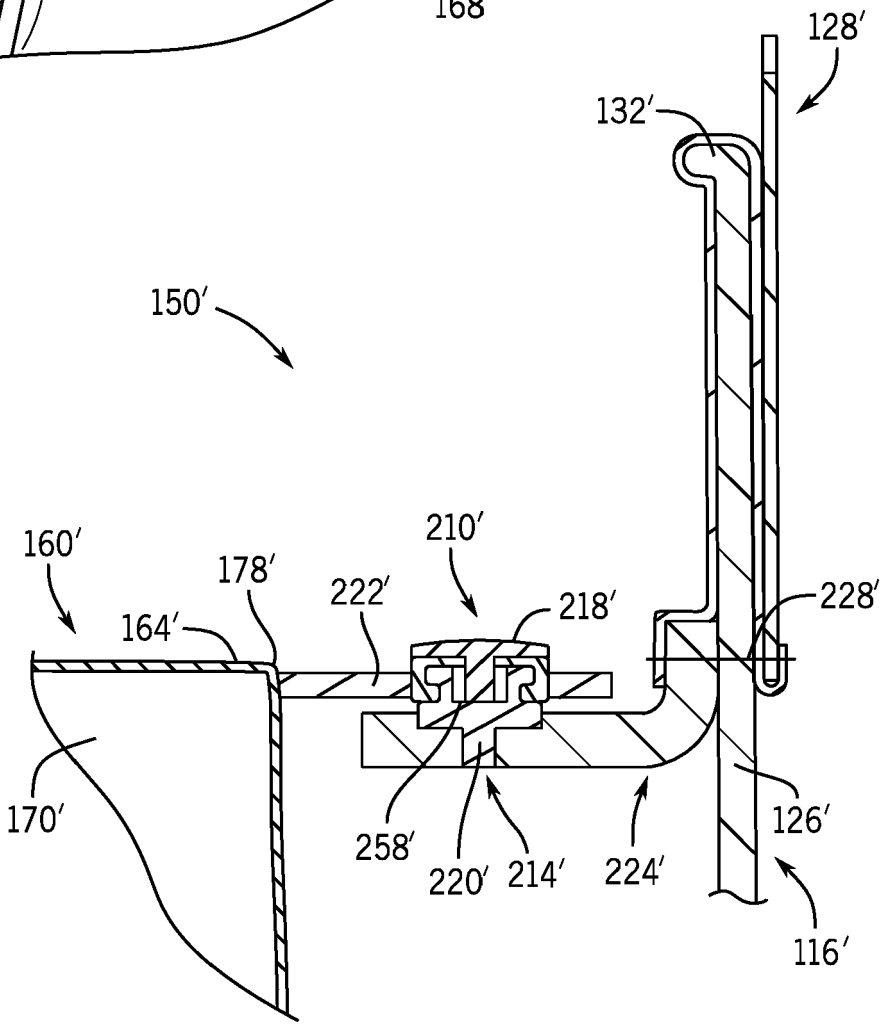

FIG. 15B

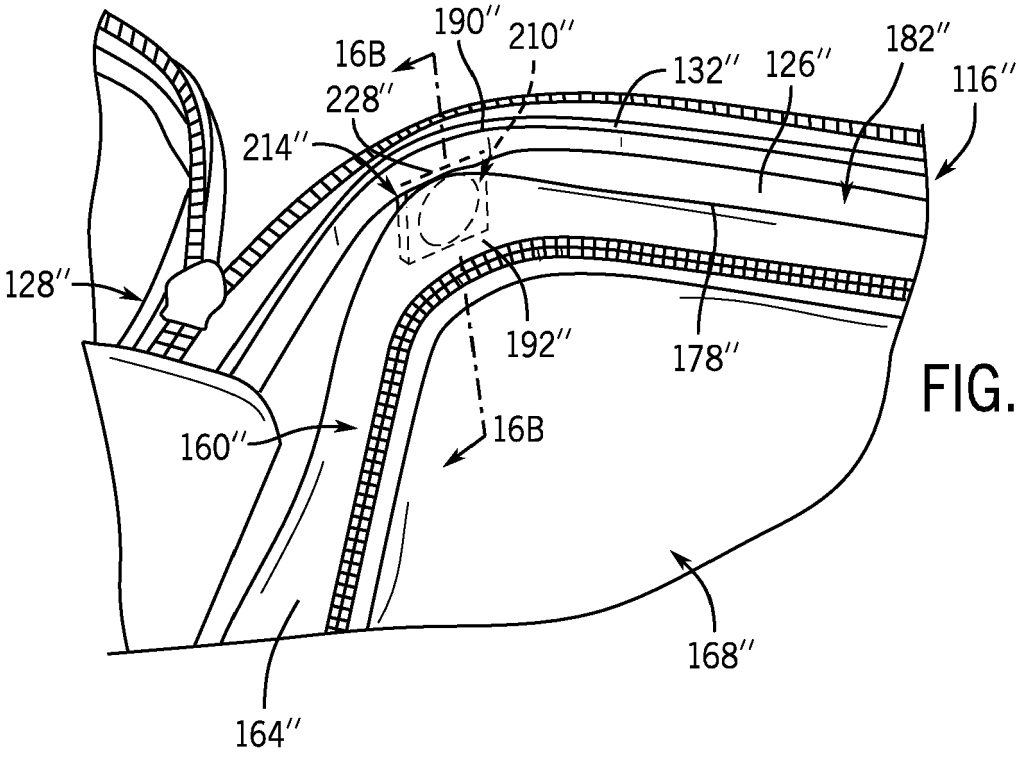

FIG. 16A

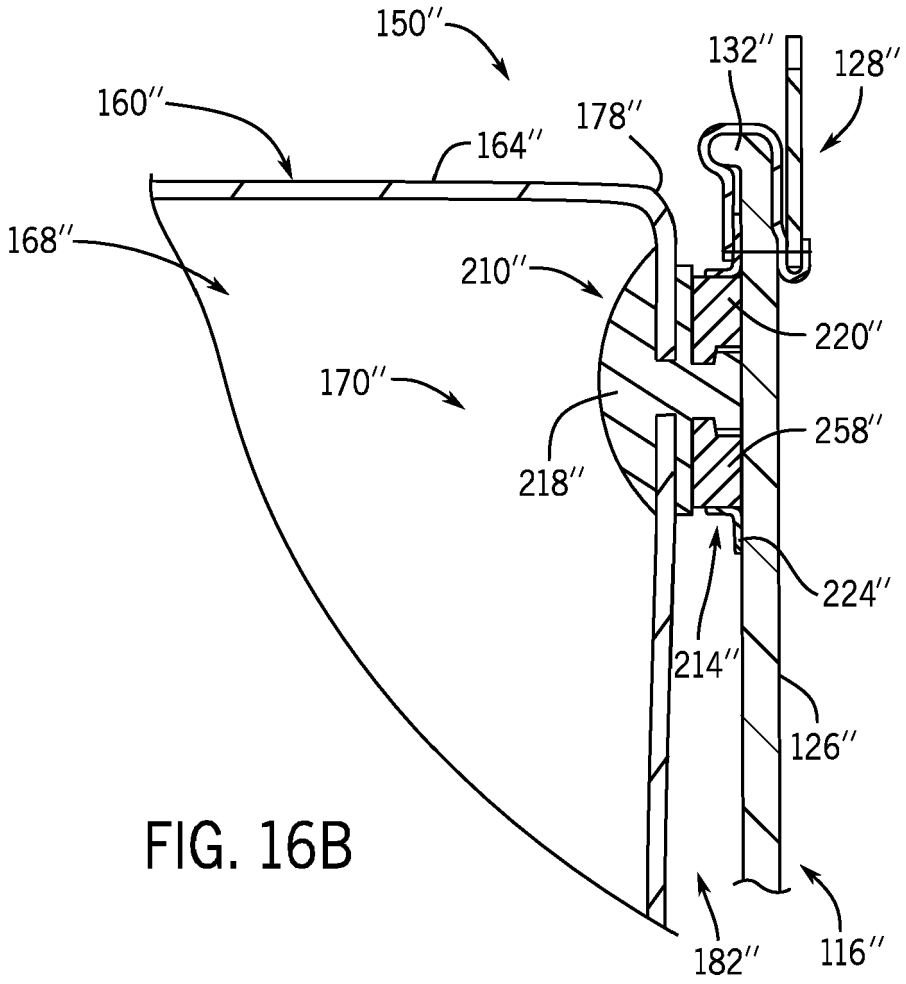

FIG. 16B

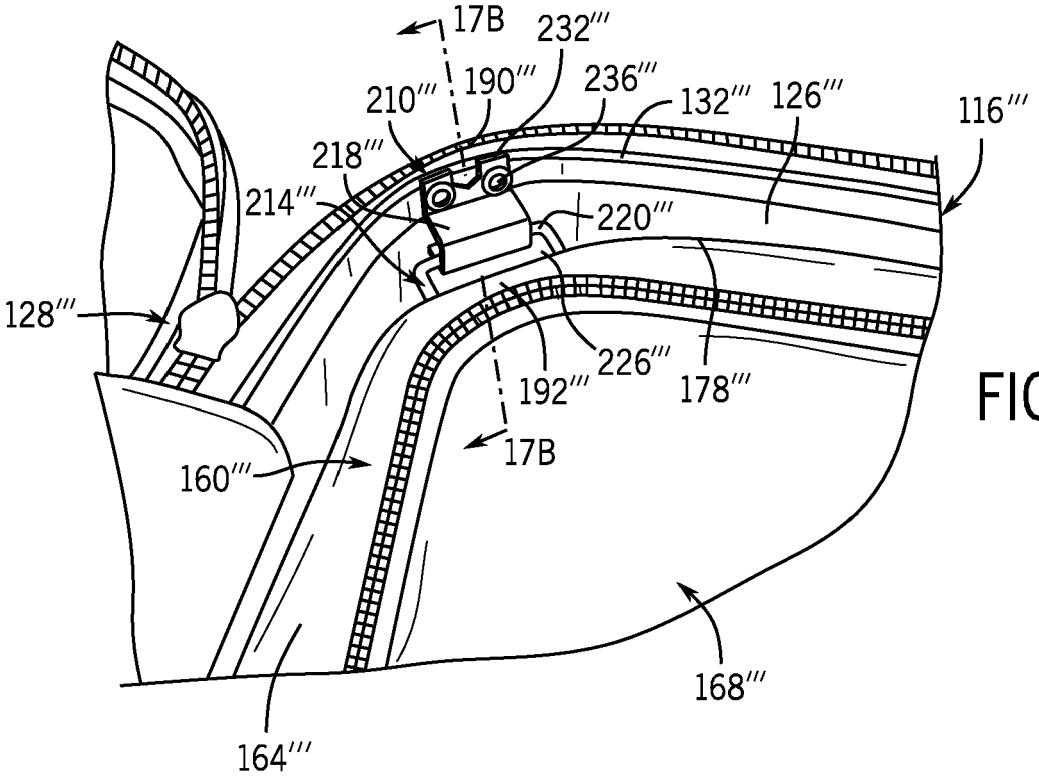

FIG. 17A

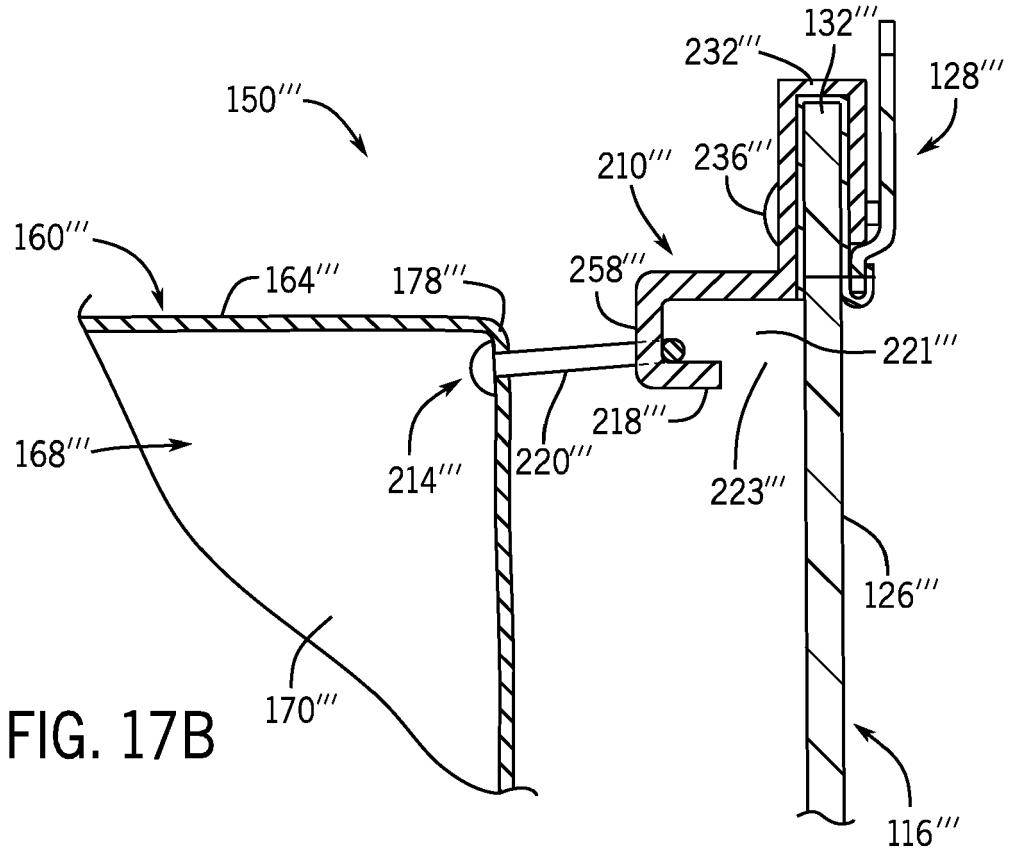

FIG. 17B

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 23 21 0180

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 3 351 130 B1 (SAMSONITE IP HOLDINGS SARL [LU]) 19 August 2020 (2020-08-19) * paragraph [0017] - paragraph [0050]; figures 1-11 *	1-15	INV. A45C5/03 A45C5/04 A45C13/02
X	CA 2 635 328 C (HEYS INT LTD [CA]) 2 August 2016 (2016-08-02) * paragraph [0027] - paragraph [0055]; figures 1-4B *	1-15	
X	US 2012/222932 A1 (WANG ANTE [TW]) 6 September 2012 (2012-09-06) * paragraph [0022] - paragraph [0035]; figures 1-7 *	1-15	
X	US 2008/236611 A1 (REDZISZ ANDREZJ M [US] ET AL) 2 October 2008 (2008-10-02) * paragraph [0009] - paragraph [0029]; figures 1-11 *	1-13	
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Place of search	Date of completion of the search	Examiner
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