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(54) A LUGGAGE CASE WITH SNAP-FIT FRONT POCKET OR OTHER COMPONENT

(57) A luggage case (100) including at least one shell (102, 104) defining an aperture (120), and having an edge portion (300, 600, 800) extending around at least a portion of the aperture (120). A component, such as a pocket assembly (200), is coupleable to the edge portion (300, 600, 800); and a rim coupling structure (306, 606, 806) is defined along at least a portion of one of the edge portion (300, 600, 800) or the pocket assembly (200). A frame coupling structure (250, 282, 550, 750) is defined along at least a corresponding portion of the other of the edge portion (300, 600, 800) or the pocket assembly (200), and the frame coupling structure (250, 550, 750) selectively couples to the rim coupling structure (306, 606, 806) by a snap-fit engagement to attach the pocket assembly (200) to the at least one shell (102, 104).

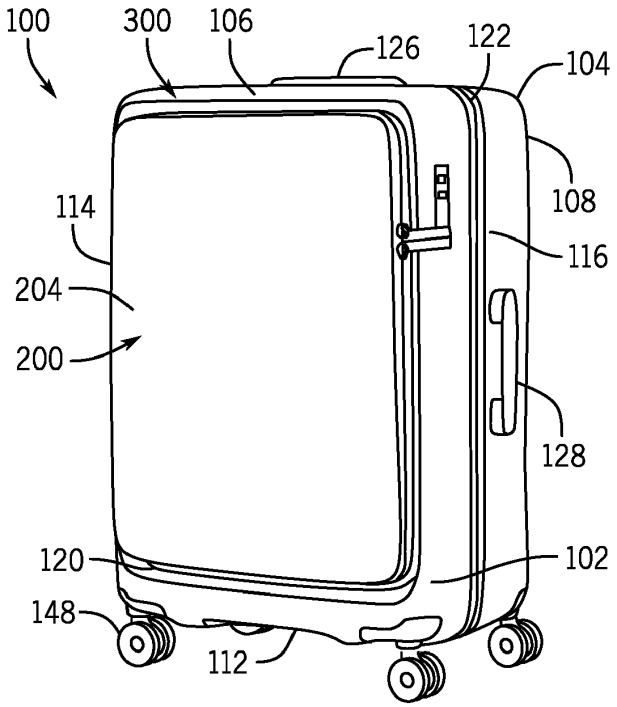

FIG. 1

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Description

BACKGROUND OF THE INVENTION

[0001] This invention relates generally to a luggage case having a component attached to a shell, and more specifically to mounting and attaching a component, in particular a front pocket, to a luggage case and a luggage case with such a mounted front pocket or other component.

[0002] Existing luggage cases commonly include connections between two or more components such as pockets or closure assembly. To attach these components the shells of the luggage cases commonly requires a skilled person to properly align the components and the shell and manually attach the closure assembly to the shell, such as by riveting or stitching. As a result, attaching the components, in particular front pockets, to luggage cases is often a time and cost intensive aspect of manufacturing luggage cases.

[0003] Accordingly, there is a need for a quicker or more cost effective solution for attaching a component to a luggage case.

BRIEF SUMMARY OF THE INVENTION

[0004] In one example of the present disclosure, a luggage case is disclosed. The luggage case includes at least one shell defining an aperture or recess, and having an edge portion extending around at least a portion of the aperture or recess. The luggage case includes a pocket assembly coupleable to the edge portion. In some examples, a rim coupling structure is defined along at least a portion of one of the edge portion or the pocket assembly. In some examples, a frame coupling structure is defined along at least a corresponding portion of the other of the edge portion or the pocket assembly. In some examples, the frame coupling structure couples to the rim coupling structure by a snap-fit engagement to attach the pocket assembly to the at least one shell.

[0005] In some examples, the rim coupling structure includes at least two discrete rim coupling structures positioned at different locations along at least a portion of one of the edge portion or the pocket assembly, and the frame coupling structure includes at least two discrete frame coupling structures positioned at different locations along at least a corresponding portion of the other of the edge portion or the pocket assembly.

[0006] Additionally, the aperture or recess may define at least 4 sides and the pocket assembly may define at least 4 sides; a discrete rim coupling structure may be positioned on each of the at least 4 sides of one of the aperture or the recess or each of the at least 4 sides of the pocket assembly; and a discrete frame coupling structure may be correspondingly positioned on each of the at least 4 sides of the other of the aperture or recess or each of the at least 4 sides of the pocket assembly.

[0007] In some examples of the luggage case, the pocket assembly includes the rim coupling structure and the at least one shell defines the frame coupling structure along the portion of the edge portion.

[0008] In some examples of the luggage case, the at least one shell includes the rim coupling structure formed along the portion of the edge portion.

[0009] In some examples of the luggage case, the pocket assembly includes the frame coupling structure.

[0010] In some examples of the luggage case, the frame coupling structure defines a U-shaped clamp or clip feature defining a slot.

[0011] In some examples of the luggage case, the rim coupling structure defines a hook shaped feature.

[0012] In some examples of the luggage case, the hook shaped feature is received in the slot and retained by the frame coupling structure in a snap-fit engagement.

[0013] In some examples of the luggage case, the frame coupling structure includes first structure configured to interlock with the rim coupling structure.

[0014] In some examples of the luggage case, the frame coupling structure includes a second structure defining a U-shaped receiving feature spaced from the first structure and configured to receive the rim coupling structure.

[0015] In some examples of the luggage case, the rim coupling structure is integral with and extends from the edge portion.

[0016] In some examples of the luggage case, the frame coupling structure is defined by a frame coupled to the pocket assembly.

[0017] In some examples of the luggage case, the frame coupling structure is an elongated feature extending along a side of the pocket assembly.

[0018] In some examples of the luggage case, the frame includes a plurality of sides and a plurality of frame coupling structures , including at least one frame coupling structure positioned on and extending at least partially along each of the plurality of sides.

[0019] In some examples of the luggage case, the rim coupling structure includes a head portion.

[0020] In some examples of the luggage case, the frame coupling structure includes a base flange defining the slot.

[0021] In some examples of the luggage case, the frame coupling structure corresponds to the rim coupling structure and the head portion is received in the slot to selectively couple the frame coupling structure and the rim coupling structure.

[0022] In some examples of the luggage case, the rim coupling structure includes an inner wall and the head portion extending from or adjacent the inner wall.

[0023] In some examples of the luggage case, the rim coupling structure includes a catch portion extending from or defined by the head portion.

[0024] In some examples of the luggage case, the rim coupling structure includes the head portion spaced from the inner wall to define a channel.

[0025] In some examples of the luggage case, the

frame coupling structure includes the base flange including a top portion and a bottom portion.

[0026] In some examples of the luggage case, the frame coupling structure includes the base flange including the bottom portion forming the U-shaped receiving feature defined in part by a free wall.

[0027] In some examples of the luggage case, the base flange includes a hitch structure extending towards the free wall and including a tang spaced from the base flange to define a gap.

[0028] In some examples of the luggage case, the tang is received in the channel and the catch portion is received in the gap to maintain engagement and retain the frame coupling structure with the rim coupling structure

[0029] In some examples of the luggage case, the free wall engages the rim coupling structure to retain the head portion in the slot.

[0030] In some examples of the luggage case, upon insertion of the head portion into the slot, an end of the free wall and deflects outwardly to increase a width of a passage to the slot and allow the head portion to pass there through into the slot.

[0031] In some examples of the luggage case, upon the head portion being received in the slot, the catch portion clears the tang to allow the catch portion to be received in the gap.

[0032] In some examples of the luggage case, the free wall biases toward the head portion.

[0033] In some examples of the luggage case, a slot height is greater than a head height of the head portion

[0034] In some examples of the luggage case, the edge portion includes at least one corner region.

[0035] In some examples of the luggage case, the corner region includes a corner rim coupling structure.

[0036] In some examples of the luggage case, the pocket assembly includes a corner portion.

[0037] In some examples of the luggage case, the corner portion includes a corner frame couplings structure.

[0038] In some examples of the luggage case, the corner rim coupling structure supports the corner frame coupling structure.

[0039] In some examples of the luggage case, the edge portion includes at least a first side.

[0040] In some examples of the luggage case, the first side includes the rim coupling structure.

[0041] In some examples of the luggage case, the corner region is positioned adjacent the first side.

[0042] In some examples of the luggage case, the corner rim coupling structure defines a second channel.

[0043] In some examples of the luggage case, the corner frame coupling structure defines a free end extending along a portion of the corner portion.

[0044] In some examples of the luggage case, the corner frame coupling structure is received in and supported by the second channel.

[0045] In some examples of the luggage case, the free end is received in and supported by the second channel.

[0046] In some examples of the luggage case, the rim coupling structure defines a rib.

[0047] In some examples of the luggage case, the frame coupling structure contacts the rib to limit movement of the frame coupling structure relative to the rim coupling structure.

[0048] In some examples of the luggage case, the rib extends downwardly from the head portion to contact the base flange.

[0049] In some examples of the luggage case, the pocket assembly has a rectangular shape.

[0050] In some examples of the luggage case, the aperture the recess has a rectangular shape.

[0051] In some examples of the luggage case, the aperture or the recess has a corresponding rectangular shape to the pocket assembly.

[0052] In some examples, the aperture is a recess or opening defined in the at least one shell.

[0053] In some examples of the luggage case, the pocket assembly includes at least four sides and at least four corner portions.

[0054] In some examples of the luggage case, the frame includes at least four sides and at least four corner portions.

[0055] In some examples of the luggage case, the pocket assembly includes at least four sides and at least four corner portions.

[0056] In some examples of the luggage case, the at least one shell is a soft sided, hard-sided, or hybrid shell.

[0057] In some examples of the luggage case, the luggage case is a soft sided, hard-sided, or hybrid shell.

[0058] In some examples of the luggage case, the at least one shell and the edge portion are formed by injection moulding, press moulding, or vacuum moulding.

[0059] In some examples of the luggage case, the at least one shell and the rim coupling structure are formed by injection moulding, press moulding, or vacuum moulding.

[0060] In some examples of the luggage case, the rim coupling structure is attached to the at least one shell.

[0061] In some examples of the luggage case, the pocket assembly is a front pocket assembly.

[0062] In some examples of the luggage case, the aperture or the recess is defined by a front panel of the at least one shell.

[0063] In some examples of the luggage case, the pocket assembly defines an internal volume selectively accessed by a closure assembly.

[0064] In some examples of the luggage case, the pocket assembly includes a rigid, semirigid, or flexible panel.

[0065] In some examples of the luggage case, the pocket assembly is a soft-sided pocket assembly comprising a fabric.

[0066] In one example of the present disclosure, a luggage case is disclosed. The luggage case includes at least one shell defining an aperture or a recess, and having an edge portion extending around at least a por-

tion of the aperture or the recess. The luggage case includes a closure assembly coupleable to the edge portion. In some examples, a rim coupling structure is defined along at least a portion of one of the edge portion or the closure assembly. In some examples, a frame coupling structure is defined along at least a corresponding portion of the other of the edge portion or the closure assembly. In some examples, the frame coupling structure couples to the rim coupling structure by a snap-fit engagement to attach the closure assembly to the at least one shell.

[0067] In some examples of the luggage case, the frame coupling structure is defined by a base flange extending along at least one side of at least one zipper tape of the closure assembly.

[0068] In some examples of the luggage case, the rim coupling structure is defined by the edge portion and extends around a portion of the at least one shell.

[0069] In some examples of the luggage case, a second shell defines a second edge portion defining a second rim coupling structure.

[0070] In some examples of the luggage case, the closure assembly extends from the edge portion to the second peripheral edge.

[0071] In some examples of the luggage case, a first frame coupling structure couples to the rim coupling structure and a second frame coupling structure extending along a second side of the zipper tape couples to the second rim coupling structure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0072]

FIG. 1 shows a front perspective view of an example hard sided luggage case including a front pocket assembly.

FIG. 2 shows a perspective exploded view of the example luggage and front pocket assembly.

FIG. 3 shows a rear perspective view of an example front pocket.

FIG. 4 shows a perspective view of an example frame of the front pocket assembly.

FIG. 5 shows partial cross sectional view of the example front pocket assembly of FIG. 3.

FIG. 6A shows an example first position of the example frame and rim prior to engagement.

FIG. 6B shows an example second position of the example frame and rim during assembly.

FIG. 6C shows an example third position of the example frame and rim during assembly.

FIG. 6D shows an example of the example pocket assembly engaged with the example rim.

FIG. 7A shows a close up view of an example rim of a shell of a luggage case.

FIG. 7B shows a cross sectional view of the corner region of the example rim of FIG. 7A.

FIG. 7C shows a close up view of the example rim of FIG. 6A and an example frame received in the rim.

FIG. 8 shows an example cross section of the frame and rim of FIG. 6B engaged at a corner region of the rim.

FIG. 9 shows an example of a mold system to form an example shell of a luggage case.

FIG. 10A shows an example first position of the example frame and rim prior to engagement.

FIG. 10B shows an example second position of the example frame and rim during assembly.

FIG. 10C shows an example of the example pocket assembly engaged with the example rim.

FIG. 11A shows an example first position of the example frame and rim prior to engagement.

FIG. 11B shows an example second position of the example frame and rim during assembly.

FIG. 11C shows an example of the example pocket assembly engaged with the example rim.

FIG. 12 shows an example shell of a hard-sided luggage case including an attachable closure assembly.

FIG. 13 shows a cross sectional view of the example closure assembly and rim coupling structures of FIG. 12.

FIG. 14 shows a cross sectional view of the frame coupling structures of the example closure assembly and rim coupling structure of FIG. 12 engaged.

FIG. 15A shows a close up view of the example frame coupling structure attaching to the rim coupling structure of FIG. 12.

FIG. 15B shows a close up view of the example frame coupling structure attached to the rim coupling structure of FIG. 12.

DETAILED DESCRIPTION OF THE INVENTION

[0073] The present application may discloses an alternative arrangement for attaching a component part, for example a front pocket assembly, panel, or zipper to a luggage case, and a luggage case with such a component, in particular front pocket, thereby attached. For example, one of the luggage case or an attachable component may include one or more frame coupling structures arranged to connect, and in one example connect by a snap-fit frame coupling structure, with a corresponding rim coupling structure on the other of the luggage case or attachable component.

[0074] The luggage case may include a main body with two or more shells hingedly attached. The shell may define an aperture. The aperture may include an opening through the shell, a recess formed in the shell, or an opening formed in a recess in the shell. In any of these examples, a rim or edge portion may extend around and define the boundary of the periphery of the aperture or recess.

[0075] In one example, the attachable component is a front pocket for the luggage case. The front pocket may include two or more portions selectively joined by a

closure assembly. For example, a top portion including a front panel and a bottom or rear portion, which may include a backing panel of relatively stiff material or of flexible material may be joined by the closure assembly. A pocket interior volume may be defined between the top portion and the bottom portion. The top portion may function as a door or lid to allow access into the pocket interior volume. The front pocket, as one example of the component, may include a frame, such as formed by an extrusion, coupled to one of the portions of the pocket. For example, the frame may be coupled to the bottom or rear portion of the pocket. The frame may include a flexible or resiliently deflecting material.

[0076] The attachable component, such as the pocket, may couple to or engage with the shell. The engagement may be by a snap-fit engagement. The snap-fit engagement may be a connection structure to couple two components. One component may be a receiving structure, such as the rim coupling structure, and the other component may include be an engaging structure, such as the frame coupling structure. The rim coupling structure may be formed to receive and retain the frame coupling structure by an interlocking interface. For example, the rim coupling structure may be a hook, holder, or grooved feature. The frame coupling structure may be a U-shaped clamp, clasp, or clip feature. Accordingly, the clip feature may couple or snap-fit to the hook. In some examples, the snap-fit engagement may also include a resiliently deflecting mechanical interference to aid in maintaining the interlocking engagement and inhibit the disengagement of the components. In some examples, by using a snap-fit frame coupling structure the components may be coupled without the required use of another attachment feature, such as a fastener, adhesive, or similar. In some examples, another attachment feature may be used to complement the snap-fit frame coupling structure to reduce the likelihood of unintentional separation of the components.

[0077] In some examples, the shell may define or include the rim coupling structure. For example, the rim coupling structure may be positioned adjacent the aperture or recess, such as in one example being formed at the rim, or being formed near the rim, such as for example within 0.5 to 4 cm from the rim. The rim coupling structure is for engaging, such as by a snap-fit, the attachable component (e.g. a pocket or closure assembly). The rim coupling structure may extend continuously along the rim or edge portion, or may be located at one or more discrete locations along the rim or edge portion. The rim coupling structure may be a hook, holder, or crook feature extending from the rim or edge portion into or adjacent the aperture. In some examples, the rim may define a side portions and corner regions of the aperture. In such examples, the rim coupling structure may include a first portion along at least a portion of the side portions and a second portion along at least a portion of the corner regions.

[0078] The frame may include or define the one or more frame coupling structures allowing the pocket to be attachable to, or removable from, the corresponding rim coupling structure of the shell. For example, the frame coupling structure may be positioned adjacent a periphery of the frame, such as in one example being formed at the periphery, or being formed near the near the periphery, such as for example within 0.5 to 4 cm from the periphery. The frame coupling structure is for engaging, such as by a snap-fit, the corresponding attachment structure on the shell, such as the rim coupling structure. The frame coupling structure may extend continuously along the periphery of the frame, or may be located at one or more discrete locations along the periphery of the frame. The frame coupling structures may be U-shaped hooks, clasp, or clip features extending from the frame. The snap-fit engagement may allow the front pocket or attachable component to be easily installed on or removed from the shell. In some examples, the frame may include side portions and corner portions. In such examples, the frame coupling structure may include a first portion along at least a portion of the side portions and a second portion along at least a portion of the corner portions.

[0079] In some examples, the shell may include the frame coupling structures and the rim coupling structure may be defined by or attached to the front pocket. For example, the frame may be coupled to the rim or edge portion, and the rim coupling structures may be defined or coupled to the pocket assembly. In some examples, corresponding frames defining the rim coupling structure and the frame coupling structure are each coupled to the respective shell and attachable component (such as for example a pocket or closure mechanism).

[0080] In some examples, the attachable component may be a closure assembly, such as a zipper assembly, for connecting or selectively accessing an internal volume between two shells of the luggage case. Accordingly, two or more shells, or portions of a shell, may define a rim coupling structure and the closure assembly may define corresponding frame coupling structures. The rim coupling structures may be positioned along a periphery of the shells. The frame coupling structures may couple to the rim coupling structures to define a line of connection around the shells. In some examples, the attachable component may be removed from the shells and replaced when damaged, rather than replacing the luggage case as a whole.

[0081] In some examples, the frame coupling structure, the rim coupling structure, or both may be continuous structures that engage together. In some examples the frame coupling structure and the rim coupling structure may be individual discrete clips or portions that are respectively positioned around the frame and the rim so as to suitably align adequate engagement. In still other examples, one of the rim or frame coupling structures may be continuous, and the other of the rim or frame coupling structure may include discrete clips or portions for coupling together. Where the rim or frame coupling

structures are discrete clips or portions, in one example there may be four of each with one positioned on each side of the rim and/or frame for corresponding engagement.

[0082] By allowing the attachment of various components, such as a front pocket assembly, by a snap-fit engagement to the shell, the difficulty of attaching components may be reduced. Additionally, the snap-fit engagement may allow a customer to select or customize various combinations or styles of components attached to the shell. For example, a larger or smaller pocket may be selected. Various colors, textures, fabrics or other aesthetic features may be combined or selected.

[0083] FIG. 1 shows a front perspective view of an example luggage case 100 including an example pocket assembly 200 in a closed configuration. FIG. 2 shows an exploded view of the example front pocket assembly 200 separated from the luggage case 100. The luggage case 100 may include a rim coupling structure 306 to engage with corresponding frame coupling structures 250 of the pocket assembly 200 to selectively attach or snap-fit the pocket assembly 200 to the luggage case 100. In some examples, the snap-fit engagement may be reversible, such as for example the snap-fit engagement may be removable. In other examples, the snap-fit engagement may be permanent or semi-permanent. In some examples, the luggage case 100 may include the frame coupling structure 250 and couple with a pocket assembly 200 or other attachable component including the rim coupling structure 306.

[0084] The luggage case 100 may be, or alternatively referred to as, a luggage article, bag, trolley, etc. In one example, the luggage case 100 may be an upright hard-sided case, such as a spinner luggage case. In other examples, the luggage article 100 may be many types of luggage, including a soft side spinner case with a moulded frame or internal shell, a hybrid luggage case (e.g. including soft and hard panels), a container, or the like. The luggage case 100 may include two or more shells 102, 104 and a plurality of panels defining an internal storage volume 130 to carry a person's belongings.

[0085] The luggage case 100 may include a front or top shell 102 and a rear or bottom shell 104. The luggage case 100 may include one or more sides or panels. For example, the luggage case 100 may include a front panel 106 and an opposing rear panel 108, a top panel 110 and a bottom panel 112, and opposing left panels 114 and right panels 116. The front 102 and rear shells 104 may be joined together and define internal storage volume 130. The luggage case 100 can be moved between a closed configuration in which an edge portion 300 of the two or more shells 102, 104 may be positioned adjacent one another, and an open configuration to provide access to the internal storage volume 130. The luggage case 100 may be selectively opened or closed by a closure assembly 122, such as a zipper, latch, or similar assembly. While reference may be made to either the front shell 102 or the rear shell 104, it is appreciated that either shell may include the same or similar structures of features. The shells 102, 104 may also be joined by a hinge along one of the sides or panels, for example the left side 114.

[0086] The shells 102, 104 may be hard sided, soft-sided, or a hybrid sided shell. The shells 102, 104 may be made entirely or partially of a moulded polymer. The shells 102, 104 may be press moulded, vacuum moulded, or injection moulded. The shells 102, 104 may be formed as a single unit with at least some features of the shells described herein formed by moulding. For example, a hard-sided luggage case 100, such as that shown in Figs. 1 and 2 may be formed at least partially by a moulding process. A soft-sided luggage case 100 may be made by moulding all or part of a peripheral portion of the shells 102, 104 and connecting soft-sided exterior portions and desired frame members thereto.

[0087] Exterior features may be connected to the moulded portions of the luggage case 100. In some examples, the luggage article 100 may include one or more carry handles 128 and/or a retractable tow handle 126 extendable from a bezel of the rear panel 108 of the luggage article 100. The retractable tow handle 126 may extend outwardly from and retract into the bezel and may allow a user to pull or tow the luggage article 100. The luggage article 100 may include one or more foot elements 148 such as wheels, casters, spinner assemblies, posts, or the like to support or enable the movement of the luggage article 100 on a support surface such as a floor, street, sidewalk, or the ground.

[0088] With reference to FIG. 1 and 2, the luggage case 100 may include a pocket assembly 200. The pocket assembly 200 may be received by or in an aperture 120 defined by one of the shells 102, 104 of the luggage case 100. In some examples, the aperture 120 may be an opening, such as for example a hole, formed through the shell on which it is positioned, and extend into an interior region in the shell, such as the internal storage volume 130 of the luggage case 100. In other examples, the aperture 120 may be a recess or depression in a portion of the shell 102, 104 that does not expose the interior of the shell, such as the internal storage volume 130 of the luggage case 100. For example, where the aperture is in the form of a recess, the aperture may define a bottom wall or floor of the aperture 120. In one example, the pocket assembly 200 is a front pocket assembly and the aperture 120 is defined by the front or top shell 102. For example, the aperture 120 may be defined in the front side or panel 106.

[0089] The shell 102 may include an edge portion or rim 300 extending around the aperture 120. The rim 300 may be integrally formed with the shell 102. The rim 300 may include one or more sides 328. For example, the aperture 120 may be rectangular and include four sides 328. The rim 300 may include one or more corner regions 330 positioned at an end of a side 328 or between two or more sides 328. In one example, the aperture 120 is rectangular and the rim 300 includes four sides 328

and four corner regions 330.

[0090] The rim 300 may define or include a rim coupling structure 306 defining a portion of the snap-fit engagement. The rim coupling structure 306 may be a hook, crook, or curved holder. In some examples, the rim coupling structure 306 is integrally formed with the rim 300. In some examples, the rim coupling structure 306 is a separate feature coupled or attached to a portion of the rim 300. The rim coupling structure 306 may be defined along all or a portion of the rim 300. For example, the rim coupling structure 306 may be an elongated feature. The rim coupling structure 306 may engage, such as by snap-fit discussed herein, with a corresponding frame coupling structures 250 of the pocket assembly 200. In some examples, the rim 300 may define two or more rim coupling structures 306. For example, the rim coupling structures 306 may be a first rim coupling structure 306, which in this example is positioned along a side 328 of the rim. In some examples, the corner regions 330 may optionally include or define a second or corner rim coupling structures 332 positioned between or adjacent sides 328.

[0091] With continued reference to FIGS. 1 and 2, and additional reference to FIGS. 3-5, the pocket assembly 200 may include a top portion 202 selectively coupled to a bottom portion 208 by a closure assembly 218. The pocket assembly 200 may include a frame 240. The frame 240 may define the frame coupling structures 250. The pocket assembly 200 may be a variety of shapes or sizes, such as a rectangular or circular polygon. The pocket assembly 200 may be a soft-sided or fabric sided pocket, a hard sided, or a partially hard-sided pocket. For example, the pocket assembly 200 may include moulded and/or fabric components.

[0092] The top or front portion 202 may define an exterior or front panel 204. The front panel 204 may be a soft or hard-sided material. In some examples, the front panel 204 may be made of the same or similar material as the shells 102, 104 of the luggage case 100. In some examples, the front panel 204 may be a fabric. The top or front portion 202 may include a top periphery 206 extending around the perimeter of the front panel 204.

[0093] The bottom or rear portion 208 may define the backing or rear panel 210 of the pocket assembly 200. The rear panel 210 may be a lining, padding, or hard-sided material. The bottom portion 208 may include a bottom periphery 212 extending around the perimeter of the bottom portion 208.

[0094] The pocket closure assembly 218 may be a zipper, latch, Velcro, or other fastening system. In one example, the pocket closure assembly 218 is a zipper assembly. The pocket closure assembly 218 may include a first zipper strip 220 selectively coupled by one or more teeth or engaging features 222 to a second zipper strip 224. The first zipper strip 220 and the second zipper strip 224 may include the zipper teeth 222 along an inner edge.

[0095] Continuing with reference to Figs. 1-5, the frame 240 may be defined by or coupled to the pocket assembly 200. For example, the frame 240 may couple to the bottom portion 208. The frame 240 may be at least partially made from a material that returns to or near its original shape after bending or deformation. For example, the frame 240 may be made of a flexible or elastic material. In one example, the frame 240 is at least partially made from polypropylene. The frame 240 may be extruded or moulded. In one example, the frame 240 is an extrusion. The frame 240 may be an elongated feature and flex or bend to correspond to a shape or profile of the pocket assembly 200. For example, the frame 240 may be a relatively thin, generally elongated feature, and may be resiliently flexible. For example, the frame 240 may include one or more sides 248 and one or more corner portions 280 adjacent or between sides 248. In one example, the frame 240 correspond to a rectangular shaped pocket assembly 200 and includes at least four sides 248 and four corner portions 280 positioned adjacent or between the sides 248. In some examples, the frame 240 may be cut from a larger body or strip and define a first end 297 and a second end 299, opposite the first end 297, as shown in FIG. 4. In some examples, the frame 240 may be continuous. In some examples, the frame 240 may be discontinuous or segmented (e.g. two or more frames, or frames of varying widths or thicknesses).

[0096] The frame 240 may include a base flange 241. The base flange 241 may define or be the body of the frame 240. The base flange 241 may extend along all or a portion of the length of the frame 240. The base flange 241 may have a top portion 242, and a bottom portion 243 extending from the top portion 242. The base flange 241 may define or include an exterior wall or surface 244. The base flange 241 may define or include an interior wall or surface 246 opposite the exterior wall or surface 244. In some examples, the top portion 242 of the base flange 241 may include a tail or spine 247. The spine 274 may extend from the interior wall 246 of the top portion 242.

[0097] The base flange 241 may include or define a portion of the frame coupling structure 250. The frame coupling structures 250 may be U-shaped clamps, clasps, or clips. The frame coupling structures 250 may be defined along a portion of the frame 240 such as the sides 248 of the frame 240. Accordingly, the frame coupling structures 250 may be elongated features or extend along a portion of the sides 248. In some examples, the frame 240 includes two or more sets of frame coupling structures 250. The corner portions 280 of the frame 240 may optionally include or define a second set of frame coupling structures 282 along at least a portion of the corner portions 280. For example, the frame coupling structures 250 may be a first set of frame coupling structures defined at the sides 248 and the second, or corner frame coupling structures 282, may be positioned at a portion of the corner portions 280. The frame coupling structures 250 at the sides of the 248 may be snap-fit coupling structures, and the frame coupling structures

282 at the corners portions 280 may not be snap-fit coupling structures.

[0098] The base flange 241 may define or include a first frame coupling portion or hitch structure 252. The base flange 241 may define or include a second frame coupling portion or well portion 265. The hitch structure 252 and the well structure 265 may define the frame coupling structure 250. In some examples, the frame coupling structures 250 may be continuous or discontinuous along the frame. For example, the frame coupling structures 250 may extend along one or more lengths of the frame 240, such as sides 248, to position a frame coupling structure at discrete locations. In other examples, the frame coupling structure 250 may be segment or may extend intermittently along the frame 240. In the example shown in Fig. 3, the snap-fit frame coupling structure 250 extends along the majority of the periphery of the pocket assembly 200. The snap-fit frame coupling structure 250 is discontinuous, for example it is positioned at discrete locations or portions along the periphery of the frame 240 on the pocket 200, such as along the sides 248. As shown, and in one example, the snap-fit frame coupling structure 250 extends along each side 248 of the pocket assembly 200, and in some examples may not be positioned in the corner portions 280 of the frame 240. The coupling structure 282 in the corner portions 280 are in this example not snap-fit coupling portions, but are instead alignment or abutment-type coupling portions as shown in Fig. 8.

[0099] With continued reference to FIGS. 3, 4 and 5, an example assembled pocket assembly 200 is depicted. In some examples, the frame coupling structure 250 may be coupled to the pocket assembly 200. For example, the frame 240 may be coupled to the pocket assembly 200. In some examples, the frame 240 may be coupled to the top portion 202 or the bottom portion 208 of the pocket assembly 200, such as along either periphery 206, 212. In one example, the frame 240 is attached to the bottom portion 208. For example, the base flange 241 may be positioned along a portion of the periphery 212 of the bottom portion 208.

[0100] To attach the frame 240 to the pocket assembly 200, the periphery 212 may be positioned against the interior side 246 of the top portion 242 of the base flange 241. The periphery may be positioned adjacent to or in contact with the spine 247. The closure assembly 218 may also be attached to the bottom portion 208 and/or the frame 240. For example, a section of the second zipper strip 224 may be positioned against the exterior side 244 of the top portion 242. The second zipper strip 224, the frame 240, and the backing 210 may be attached together by a fasteners (e.g. rivets, bolts, snaps), adhesive, or stitching 232. During attachment of the frame 240 to the backing 210 or the second zipper strip 224, the spine 247 may assist in a guiding a device applying the fastener, adhesive, or stitching 232. For example, the spine 274 may guide a foot of a sewing device along a portion of the base flange 241. The first zipper strip 220 may similarly be attached to the top or front portion 202. For example, a portion of the first zipper strip 220 may be positioned along the periphery 206 of the top portion and attached by a fastener, adhesive, or stitching 232.

[0101] In some examples, the pocket assembly 200 includes a binding 230. The binding 230 may be a material arranged to cover or secure the connected features of the pocket assembly 200. For example, the binding 230 may cover and extend over from a side of the periphery 212 opposite frame 240 to the second zipper strip 224. The binding 230 may be similarly attached to the components by the fastener, adhesive, or stitching 232. The top portion 202 and the first zipper strip 220 may similarly include a binding 230. The binding 230 may cover the components to conceal the assembled components and/or to protect the components from wear. In one example, the binding 230 is a wear resistance fabric.

[0102] After assembling the pocket assembly 200, the pocket assembly 200 may define a second or pocket internal storage volume 215 to receive a person's goods or luggage. The second internal storage volume 215 may be accessible by selectively opening or closing the closure assembly 218.

[0103] With continued reference to FIG. 4 and FIG. 5, the frame coupling structures 250 of the frame 240 may extend from or be defined by the base flange 241. As discussed herein, the frame coupling structures 250 may define J or U-shaped clip, clasp, or clamp features to engage or snap-fit with the corresponding rim coupling structure 306 of the luggage shell 102. The frame coupling structure 250 and the rim coupling structure 306 may together define the snap-fit engagement structure. The frame coupling structures 250 may include the hitch structure or first frame coupling portion 252 and the well structure or second frame coupling portion 265.

[0104] The hitch structure 252 may extend from the exterior side 244 of the base flange 241. The hitch structure 252 may be a clip shaped or interlocking structure. For example, the hitch structure 252 may extend from the base flange 241 between the top 242 and bottom portions 243. The hitch structure 252 may be angled or hook shaped, or otherwise change direction over its length. The hitch structure 252 may be a clasp or clip like feature. In some examples, the hitch structure 252 may be rectilinear. The hitch structure 252 may include an arm or horizontal portion 254. In some examples, the arm portion 254 may extend at an angle or perpendicular relative to the base flange 241. A second portion or tang 257 may extend from the arm portion 254. The tang 257 may extend perpendicular relative to the arm portion 254. The tang 257 may extend parallel to or be aligned with the base flange 241 adjacent the horizontal portion 254. The hitch structure 252 may define a gap or recess 259. For example, the gap 259 may be defined between the tang 257 and the base flange 241. The horizontal feature 254 may define a top of the gap 259.

[0105] The second frame coupling portion or well structure 265 may be defined by the base flange 241. The well

structure 265 may be a J or U-shaped receiving feature. The base flange 241 may define the second frame coupling portion 265 and include the return or crown 268. For example, the second frame coupling portion 265 may be a section of the bottom portion 243 of the base flange 241. The crown 268 may define a change of direction of the base flange 241. The crown 268 may define an arcuate or curved feature. The base flange 241 may include a free wall or flange 271 extending from the crown 268. The free wall 271 may be parallel or aligned with the top portion 242 of the base flange 241. The free wall 271 may extend into and/or terminate in a leading end 273. The leading end 273 may be an angled end of the free wall 271. For example, the leading end 273 may be angled or sloped away from the base flange 241. In some examples, the leading end 273 may be omitted or replaced with a leading edge 273 defining a tip or edge of the free wall 271. The second frame coupling portion 265 may be spaced from the hitch structure 252 to define an opening or passage 261. For example, the free wall 271 may be spaced from the tang 257. In one example, the free wall 271 is spaced from the tang 257 by a distance of approximately 1mm to 5 mm, but other distances may be acceptable.

[0106] The well structure or second frame coupling portion 265, as defined by the bottom portion 243 of the base flange 241, may define a slot or recess 276 therebetween. The crown 268 may define a bottom of the slot 276. The second frame coupling portion 265 and the hitch structure 252 may define the opening or passage 261, such as between the free wall 271 and the tang 257. The passage 261 may extend to the slot 276. In some examples, the distance from the tang 257 to the crown 268 may define a slot height 278.

[0107] With reference to FIGS. 1-2 and 7A, the shell 102 may define an edge portion or rim 300. The edge portion 300 may be defined by the shell 102 and extend around a portion of the aperture 120. The edge portion 300 may be a change in shape or direction of the shell 102 around the aperture 120. For example, the edge portion 300 may have an apex 302 defining a change in direction from the shell 102 towards the aperture 120.

[0108] The rim coupling structure 306 may be coupled to or formed on the shell 102. For example, the rim coupling structure 306 may be coupled along a portion of the rim or edge portion 300. For example, the rim coupling structure 306 may be attached or moulded to the rim 300. In one example, the rim coupling structure 306 is integrally moulded to or with the rim 300. The rim coupling structure 306 may define a portion of the snap-fit structure. The rim coupling structure 306 may be a hook, holder, or crook. For example, the rim coupling structure 306 may be generally U or J-shaped. The shape or profile of the rim coupling structure 306 may correspond to the shape or profile of the frame coupling structure 250.

[0109] The rim coupling structure 306 may include a first portion 308 and a second portion 312. The first portion 308 may extend from the edge portion 300. The second portion 312 may define the hook or crook. The rim coupling structure 306 may include an interior surface 316 facing or located closer to a wall of the shell 102, and an exterior surface 318 opposite the interior surface 316. In some examples, the rim coupling structure 306 may be continuous along all or a portion of the rim 300. In some examples, the rim coupling structure 306 is discontinuous or segmented. For example, the snap-fit rim coupling structure 306 may be positioned along the sides 328 of the rim 300, and may not be formed to extend through the corner regions 330. In some examples, the rim coupling structure 306 may be a first rim coupling structure 306 that is a snap-fit coupling, and the optional corner region 330 may define a second or corner rim coupling structure 332, which may be an alignment or abutment coupling and not a snap-fit coupling. A cavity 304 may be defined between the rim coupling structure 306 and the wall of the shell 102.

[0110] The first portion 308 may extend from the apex 302 away from the body of the shell 102. The first portion 308 may include a chamfer 310. The chamfer 310 may be an angled wall or feature relative to the apex 302 or shell 102. For example, the chamfer 310 may extend downward and inward from the apex 302. In some examples, the chamfer 310 may be curved and change direction over its length further inward relative to the apex 302. For example, the interior surface 316 at the chamfer 310 may be concave and/or exterior surface 318 at the chamfer 310 may be convex. In a curved example, the interior surface 316 may define a cam surface of the rim coupling structure 306.

[0111] The second portion 312 may extend from the first portion 308, such as an end of the chamfer 310. The second portion 312 may be U-shaped or hook shaped. The second portion 312 may include an inner wall or flange 314. The inner wall 314 may extend from the first portion 308. For example, the inner wall 314 may extend from the chamfer 310. The inner wall 314 may be vertically aligned. In some examples, the inner wall 314 may be linear. For example, the inner surface 316 at the inner wall 314 and the exterior surface 318 at the inner wall 314 may be parallel.

[0112] The second portion 312 may include an anchor or head portion 321. The head portion 321 may be a feature having a greater width or thickness relative to the inner wall 314 or the rim 300. The head portion 321 may be a curved or arcing feature. The head portion 321 may extend from the inner wall 314. For example, the head portion 321 may extend from an end of the inner wall 314 away from the apex 302. In some examples, the interior surface 316 at the head portion 321 may continue to extend vertically or in alignment with the inner wall 314. The exterior surface 318 at the head portion 321 may be curved. The exterior surface 318 at the head portion 321 may extend upward towards and outward away from the apex 302.

[0113] The second portion 308 may include a catch portion 324. The catch portion 324 may extend from the

head portion 321. For example, the catch portion 324 may extend from the exterior side of the head portion 321. The catch portion 324 may be a lip, detent, hook, notch, or tang. The catch portion 324 may be spaced from the exterior surface 318 of the vertical wall 314 and define a channel 326 therebetween. The distance from the catch portion 324 to the bottom of the head portion 321 may define a head height 325.

[0114] With reference to FIGS. 6A-6D, the figures depict an example attachment or snap-fit engagement of the frame coupling structure 250 to the corresponding rim coupling structure 306. The snap-fit engagement may be a connection between two components including a receiving feature, such as the rim coupling structure 306, formed to receive and retain a second structure, such as the frame coupling structures 250. The snap-fit engagement between the rim coupling structure 306 and the frame coupling structure 250 may structurally interengage or interlock the two or more structures to couple the rim coupling structure 306 and the frame coupling structure 250. For example, the pocket assembly 200, as may be depicted in FIG. 6D, may be selectively attached or snap-fit to the shell 102 in the aperture 120. In some examples, the frame coupling structure 250 may include or be a resiliently deflecting feature to aid in maintaining the coupling of the rim coupling structure 306 and the frame coupling structure 250. In some examples, the frame coupling structures 250 and the rim coupling structures 306 may be engaged with the use of another component such as a fastener, rivet, adhesive, or similar. In some examples, another component may not be used to complement the snap-fit engagement. While the rim 300 is described as defining the rim coupling structure 306 and the frame 240 defines the frame coupling structures 250, it is appreciated that in some examples the reverse may be true. For example, the rim or edge portion 300 may define or include the frame coupling structure 250 and the frame 240 may include or define the rim coupling structure 306. In some examples, the attachment may be a selective engagement allowing both attachment and removal. In some examples, the attachment may be a one-way engagement where removal or separation is not intended.

[0115] Prior to attaching frame coupling structures 250 to the corresponding rim coupling structure 306, the frame 240 or pocket assembly 200 may be positioned above the rim 300. The frame 240 may be moved from above the rim 300 into the recess 120, as depicted in FIG. 6A and indicated by arrow 370, into position below the rim coupling structure 306. The frame coupling structures 250 may be positioned below the second or hook portion 312 of the rim coupling structure 306. For example, second portion 312 may be positioned above the well structure 265 and hitch structure 252. The head portion 321 may be positioned above the passage 261 between the well structure 265 and the hitch structure 252. The free wall 271 may be positioned below and towards the shell 102 relative to the inner wall 314. The hitch structure 252 may be positioned below the exterior surface 316 or curving portion of the head portion 321. The base flange 241 of the frame 240 may be spaced from the second portion 312 opposite the shell 102. The base flange 241, and the rest of the pocket assembly 200, may be at least partially positioned above the catch portion 324 and head portion 321 of the rim coupling structure 306.

[0116] As depicted in FIG. 6B, to attach the frame coupling structures 250 to the corresponding rim coupling structure 306, the frame 240 may be moved generally upwardly, as indicated by arrow 378. As discussed herein, the frame 240 may be a flexible or elastically deforming material. Accordingly, as the frame 240 is moved upward, the second portion 612 of the rim coupling structure 306 may be received by the well structure 565. The second portion may contact or engage the hitch structure 552.

[0117] For example, with reference to the hitch structure 252, the head portion 321 may be received at the passage 261 and contact the tang 257. The head portion 321 may be wider than the passage 261. With reference to the hitch structure 252, as the frame 240 is moved upward, the hitch structure 252 may correspondingly contact the exterior surface 318 of the rim coupling structure 306 at the head portion 321. The frame 240 may flex or bend as the second portion 612 extends through the passage 261 and into the slot 276. For example, the head portion 321 may contact or engages the frame coupling structures 250 to cause them to flex or deform outwardly to accept or conform to the rim coupling structure 306 or rim 300. The vertical feature or tang 257 may move along the head portion 321 to the catch portion 324. Accordingly, the hitch structure 252 may move upward and outwardly away from the apex 302, as indicated by arrow 380. The direction of movement 380 of the hitch structure 252 may be responsive to the movement of the frame 240 (e.g. upward as the frame 240 moves upward), as may be indicated by direction 378, and the shape of the head portion 321 (e.g. outward as the head portion 321 increases in width). For example, the arcing shape of the head portion 321 may assist in widening the slot 276 to receive the head portion 321.

[0118] As the frame 240 is moved upward, the well structure 265 may receive the second portion 612, such as in the slot 276 through the passage 261. The free wall 271 may contact the interior surface 316 of the rim coupling structure 306. For example, the free wall 271 may move upward and outwardly, as indicated by arrow 376, and the leading end 273 may contact and follow the interior surface 316. The slope of the leading end 273 may assist the free wall 271 in moving along the interior surface 316. For example, the angled shape of the leading end 273 may guide the free wall 271 along the interior surface 316 from the chamfer 310 towards the apex 302. The chamfer 310 may direct the free wall 271 towards the shell 102 (e.g. into the cavity 304) to widen the slot 276 to receive the head portion 321. For example, the leading end or edge 273 of the free wall 271 may engage the

interior surface 316 of the chamfer 310 and deflect outwardly (e.g. towards the shell 102) to increase the width of the passage 261 and allow the head 321 to pass there through into the slot 276. In some examples, the chamfer 310 may be curved and act as a cam surface to deflect the free wall 271 outward. For example, the free wall 271 may be resiliently deflected away from the base flange 241. In some examples, the leading end 273 may have an angle corresponding to or matching the chamfer 310. The corresponding angle of the leading end 273 may assist in guiding the free wall 271 along the chamfer 310 or in spacing the free wall 271 to widen the passage 261 and slot 276. In some examples, the free wall 271 may bias towards the base flange 241 or provide tension through the base flange 241 to the hitch structure 252. As a result, the hitch structure 252 may be pulled or under tension in the direction of the rim 300.

[0119] As depicted by FIG. 6C, the frame 240 may continue to move upward as indicated by arrow 378. The second portion 312 may be received by the well structure 565. The second portion may be at least partially engaged with or in contact with the hitch structure 552. For example, the frame 240 may be positioned such that the crown 268 of the second frame coupling portion 265 contacts the head portion 321. The head portion 321 may be inserted in the slot 276 and in contact with the bottom portion 243, such as the crown 268, of the base flange 241.

[0120] In moving the frame 240 upward, the hitch structure 252 may pass by or be positioned above, or on top of, the catch portion 324. For example, upon the head portion 321 being received in the slot 276, the catch portion 324 clears the tang 257 to allow the catch portion 324 to be received in the gap 259. The distance from the catch portion 324 to the bottom of the head portion 321, head height 325 shown in FIG. 6A, may be less than or equal to the distance from the tang 257 to the crown 268, the slot height 278. Accordingly, the hitch structure 252 may extend above or contact the top of the catch portion 324. In some examples, the frame 240 may be sufficiently elastic or deformable for the hitch structure 252 to extend over the catch portion 324 and receive the head portion 321 in the slot 276 when the slot height 278 is equal to or less than the head height 325. In this position, the tang 257 may be positioned above or adjacent the channel 326. The catch portion 324 may be positioned beneath or adjacent the gap 259.

[0121] The frame 240 or base flange 241 may retain its original shape and when flexed or bent create a resilient biasing force to return to its original position. As a result, the base flange 241 may be under a biasing force to return to or near its original shape after flexing or deforming to receive the second portion 612. As shown in FIG. 6C, the leading end 273 may remain in contact with the chamfer 310. The leading end 273 and the free wall 271 may provide tension through the base flange 241 to the hitch structure 251. For example, the tension or deflection of the free wall 271 may be in the direction of arrow 382. The deflection or tension of the free wall 271 may assist in deflecting the hitch structure 252 inward (e.g. in direction 380). Accordingly, after passing the head 321 or top of the catch portion 324, the hitch structure 252 may move inward past the catch portion 324, or towards the shell 102, as indicated by arrow 380. In some examples, a person installing the pocket assembly 200 may move the hitch structure 252 inward.

[0122] FIG. 6D depicts the frame coupling structures 250 attached or engaged with the rim coupling structure 306. For example, an example pocket assembly 200 may be attached to an example shell 102. From the position depicted in FIG. 6C, the frame 240 may be moved downward, as indicated by arrow 384, for the frame coupling structures 250 to engage with the corresponding rim coupling structures 306 to define the snap-fit engagement structure. For example, the second portion 612 may be fully engaged with the well structure 265. The second portion 612 may interlock or engage with the hitch structure 552.

[0123] By moving the frame 240 or base flange 241 downward, the hitch structure 252 may engage with the catch portion 324. The tang 257 of the hitch structure 252 may be positioned in the channel 326. The catch portion 324 may be received in the gap 259. For example, the catch portion 324 may be in contact with the tang 257 or the horizontal feature 254. An interlocking structure may be defined with the catch portion 324 and tang 257 engaged. Accordingly, the catch portion 324 and the tang 257 may limit or constrain movement of the frame 240 or pocket assembly 200 inward, outward, or downward relative to the rim 300.

[0124] The free wall 271 may move downward or towards the base flange 241 relative to the position in FIG. 6C. For example, the leading end 273 may be against the chamfer 310 or against the chamfer 310 and the inner wall 314. The free wall 271 may be under tension and exert a force against the inner wall 314. Accordingly, the second frame coupling portion 265, defined by the free wall 271 and crown 268 forming the slot 276, may engage or retain the head portion 321 and the inner wall 314. For example, the free wall 271 may be positioned against the interior surface 316 of the inner wall 314. Accordingly, the second frame coupling portion 265 and the second portion 312 of the rim coupling structure 306 may limit or constrain movement of the frame 240 inward, outward, or upward relative to the rim 300.

[0125] The frame 240 may also be moved such that the crown 268 may be spaced from the head portion 321. The distance between the crown 268 and the head portion 321 may correspond to the length or height of the tang 257, catch portion 324, or depth of the channel 326.

[0126] With the corresponding rim coupling structure 306 and the frame coupling structures 250 engaged, the snap-fit engagement may be defined. By utilizing corresponding frame coupling structures 250 and rim coupling structures 306 to attach the pocket assembly 200 to the shell 102, in contrast to stitching or otherwise fixing the

pocket assembly 200 to the shell, the pocket assembly 200 may be more readily attached to the shell 102. For example, less skilled workers or fewer tools may be required to attach the pocket 200 to the shell 102. Further, because the shell 102 and the pocket assembly 200 may be formed or assembled separately, either component may be manufactured separately. For example, the shells 102 or pocket assemblies 200 may be finished or prepared for attachment independent of the other. In some examples, the same location may either ship or receive one of the components and assemble or make the other component at the location.

[0127] Additionally, while description is given to attaching the pocket assembly 200 to the shell 102, it is appreciated that in some examples the pocket assembly 200 may similarly be removed from the shell 102. Accordingly, the frame coupling structures 250 and corresponding rim coupling structures 306 may allow for the shell 102 or pocket assembly 200 to be replaced in the event of damage.

[0128] It is also appreciated that while description is given to a pocket assembly 200, other components such as handles (e.g. handle 128 or handle 126), closure assemblies (e.g. closure assembly 122), wheels (e.g. wheels 148), or other components of luggage cases may similarly be attached or removable by the corresponding frame coupling structures 250 and rim coupling structures 306.

[0129] FIGS. 7A, 7B, and 8 illustrate engagement of the optional example corner regions 330 of the rim 300 and optional example corner portions 280 of the frame 240. Fig. 7A shows a corner region 330 of the rim 300 without the frame 240 coupled thereto. Fig. 7B shows the corner region of the rim 300 as in Fig. 7A with the corner portion of the frame 240 in position after having been attached to the rim 300. Fig. 8 is a section view of the engagement between the corner rim coupling structures 332 of the rim 300 and the corner frame coupling structure 282 of the corresponding corner portion 280 of the frame 240.

[0130] The frame coupling structures 250 may be continuous or discontinuous along the frame 240. For example, the frame 240 may include at least two frame coupling structures 250 defined along sides 248 of the frame 240. The frame 240 may define the corner portion 280 including corner frame coupling structures 282 positioned between the at least two frame coupling structures 250.

[0131] The rim coupling structure 306 may be continuous or discontinuous along the rim 300. For example, the rim 300 may include at least two rim coupling structures 306 along the sides 328 of the rim 300. The rim 300 may include a corner region 330 including corner rim coupling structures 332 between the at least two rim coupling structures 306.

[0132] The frame 240 at the corner portion 280 may similarly include the base flange 241. The frame coupling structures 282 of the corner portion 280 of the frame 240, as shown in FIG. 8, may be similar to the frame coupling structures 250 of the sides 248. For example, the frame coupling structures 282 may include the hitch structure 252, including the horizontal feature 254 and the tang 257. The base flange 241 may lack the bottom portion 243 at the corner portion 280. For example, the corner frame coupling structure 282 may terminate in a second free end 287 spaced from the horizontal feature 254. The second free end 287 and the tang 257 may define corresponding prongs. The corner frame coupling structure 282 may extend a length below the horizontal feature similar to the tang 257. In some examples, the corner frame coupling structure 282, of the corner portion 280, may be formed by cutting or removing the bottom portion 243 or second frame coupling portion 265 along a portion of the frame 240. For example, at a distance from the hitch structure 252 corresponding to the second free end 287. Accordingly, the same mould or extrusion process may be used to form the entire frame 240. The corner portion 280 may then be defined by removing material from the frame 240 (e.g. the second frame coupling portion 265).

[0133] The rim 300 corner region 330 may include a corner rim coupling structure 332 similar to the sides 328 of the rim 300. For example, the corner rim coupling structure 332 may include a first portion 308. The corner rim coupling structure 332 may include a second portion 312 extending from the first portion 308. The second portion 312 may include an inner wall 314. The corner rim coupling structure 332 may similarly include a corner catch portion 333 spaced from the inner wall 314. A second or corner channel 339 may be defined between the corner catch portion 333 and the inner wall 314. The corner rim coupling structure 332 may include a head 334 extending from the inner wall 314. However, the head 341 of the corner rim coupling structure 332 may have a greater width than the head portion 321 at the sides 328. For example, the distance from the exterior surface 318 at the inner wall 314 to the corner catch portion 333 may be greater than the distance from the exterior surface 318 at the inner wall 314 to the catch portion 324, as may be shown in FIG. 7A. Similarly, the width of the corner channel 336 may be greater than the width of the channel 326 along the sides 328.

[0134] When assembled, the corner frame coupling structure 282 at the corner portion 280 of the frame 240 may be received and supported by the corner rim coupling structure 332 of the corner region 330 of the rim 300. For example, the hitch structure 252 and the corner second frame coupling structure 282 may be received in the channel 339 of the rim coupling structure 332. The corner catch portion 333 may contact the interior side 246 of the base flange 241. The hitch structure 252, such as the tang 257 may contact the exterior surface 318 of the inner wall 314.

[0135] By utilizing a corner portion 280, the frame 240 and the corner region 330 of the rim 300 may engage without binding or warping in the corner portion 280 or

corner region 330. In some examples, the corner frame coupling structure 282 of the frame 240 may be received by the corner rim coupling structure 332 of the rim 300 prior to the engagement of the corresponding frame coupling structures 250 and the rim coupling structures 306. For example, the hitch structure 252 and the corner second frame coupling structure 285 may be placed in the channel 339 and the frame 240 may be flexed or deflected to allow for the attachment of the corresponding frame coupling structures 250 and the rim coupling structures 306. In some examples, corner frame coupling structure 282 of the frame 240 may engage with the corner rim coupling structure 332 of the rim 300 after to the engagement of the corresponding frame coupling structures 250 and the rim coupling structures 306. For example, after attaching the corresponding frame coupling structures 250 and the rim coupling structures 306, the frame 240 may be flexed or deformed to the place the hitch structure 252 and the corner second frame coupling structure 285 in the corner channel 336.

[0136] Turning to FIG. 7B, in some examples, the rim 300 or rim coupling structure 306 may further include an aligning feature or rib 345. The rib 345 may be a feature defining an increased width or length of the rim coupling structure 306. The rib 345 may extend from second portion 312, such as the head portion 321 or catch portion 324. The rib 345 may extend to a position below the head 321. For example, the rib 345 may have a greater height than the head height 325. The rib 345 may extend from the catch portion 324 to or past the inner wall 314. For example, the rib 345 may be positioned beneath the head portion 321 and have a greater width than the head portion 321.

[0137] In some examples the rib 345, as shown in FIG. 7A, 7C, may be positioned adjacent the corner region 330. The rib 345 may be positioned to contact an end of the frame coupling structure 250, such as the well structure 265 defined by the bottom portion 243 of the base flange 241. For example, the rib 345 may contact the crown 268 or free wall 271. The rib 345 may buttress an end of the sides 248. The rib 345 may prevent or limit movement of frame 240 or pocket assembly 200 relative to the rim coupling structure 306 or the shell 102. For example, the rib 345 may prevent or limit movement of the sides 248 of the frame 240 into to the corner regions 330 of the rim 300. Accordingly, when the frame 240 or frame coupling structures 250 are attached to the rim 300 or rim coupling structure 306, the rib 345 may limit movement of the frame 240 or pocket assembly 200 relative to the rim 300.

[0138] As shown in FIG. 9, in some examples, the shell 102 including the rim 300 may be formed by various moulding methods. For example, the shell 102 may be formed by press moulding, vacuum moulding, or injection moulding. The moulding process may include at least two corresponding mold pieces 406 and 415. The first mold piece 406 may define a mold surface 408. The second mold piece 415 may define a corresponding surface 417. During moulding, the shell 102 material may be under pressure and arranged to have a shape corresponding to the mold pieces 406, 415. For example, the mold surfaces 408, 417 may define the rim 300, including the first portion 308 or the second portion 312. During moulding, the extra material 402 may be formed where openings, such as the aperture 120, are positioned. Accordingly, the extra material 402 may be removed by cutting along line 404 to define the shell 102 including the rim 300.

[0139] Any of the features, components, and/or parts, including the arrangements and configurations thereof shown in any one of FIGS. 1-9 can be included, either alone or in any combination, in any of the other examples of devices, features, components, and parts shown in the other figures described herein. Likewise, any of the features, components, and/or parts, including the arrangements and configurations thereof shown and described with reference to the other figures can be included, either alone or in any combination, in the example of the devices, features, components, and parts shown in FIGS. 1-9.

[0140] Turning to FIGS. 10A-10C, another example of snap-fit engagement structure of a pocket assembly 200 to a shell 102 is depicted. For example, the snap-fit engagement may be between a frame coupling structure 550 and rim coupling structure 606. The frame coupling structure 550 may be defined by a frame 540 and may include the similar or same features as the frame 240 discussed herein. For example, frame 540 may be a flexible or elastic material and include one or more sides and one or more corner portions. The rim coupling structure 606 may be defined by or coupled to an edge portion or rim 600 may include the similar or same feature as the rim 300 as discussed herein. For example, the rim 600 may be defined by the shell 102 and extend around a portion of the aperture 120 defined by the shell 102.

[0141] The frame coupling structure 550 and the rim coupling structure 606 may engage by moving the frame coupling structure 550 or rim coupling features 606 in one direction relative to the other. For example, the frame coupling structure 550 may receive or couple to the rim coupling structure 606 by moving the frame 540 in the direction of the arrow 650 relative to the rim coupling structure 606, such as is shown in FIG. 10B. In this example, the frame 540 may be positioned above or over (as shown in Figs. 10A, B and C) the rim coupling structure 606 prior to engagement.

[0142] The frame 540 may include a base flange 541 defining the body of the frame 540. The base flange 541 may include a top portion 542 and a bottom portion 543. The top portion 542 may include a tail or spine similar to spine 247.

[0143] Turning to FIG. 10A, the frame coupling structure 550 may be similar to the frame coupling structure 250 described herein. For example, the frame coupling structure 550 may be a U-shaped clasp, clip, or clamp structure. The frame coupling structure 550 may include a first portion or hitch structure 552. The hitch structure

552 may extend from the base flange 541. The frame coupling structure may include a second portion or well structure 565. The second portion 565 may be defined by the bottom portion 543 of the base flange 541.

[0144] The hitch structure 552 may include an arm portion 554 extending from the base flange 241. The hitch structure 552 may include a tang 557 extending from the arm portion 554. The tang 557 may be oriented vertically or in a direction similar to the base flange 541. The tang 557 may terminate in a tang end 558. The tang end 558 may be oriented at an angle or slope towards the base flange 541 or arm portion 554. The tang 557 may be spaced from the base flange 541, such as the bottom portion 543, to define a gap or slot 559.

[0145] The bottom portion 543 may define the well structure 565. The bottom portion 543 or well structure 565 may include a free wall 571. The base flange 541 includes a free wall 571 that defines a leading end 573. The leading end 573 includes, in this example, a return feature that extends at an acute angle to the free wall 571 at an end of.

[0146] The hitch structure 552 and the well structure 565 may be spaced to define a passage 575. For example, the leading end 573 may be positioned adjacent or spaced from the tang 557 to define a passage or opening 575 between the tang 557 and the free wall 571. A slot 559 may be defined between the hitch structure 552 and the well structure 565. For example, the slot 559 may be defined at least in part between the tang 557 and free wall 571. The passage 575 may extend into the slot 559.

[0147] The frame coupling structure 606 may be coupled to or defined by the rim 600. The rim coupling structure 606 may be a holder or hook feature. The rim coupling structure 606 may include a first portion 608 and a second portion 612. In some examples, the second portion 612 may define the hook or holder feature.

[0148] The first portion 608 may extend from the edge portion or rim 600. For example, the first portion 608 may include a chamfer 610 extending from the shell 102. The chamfer 610 may extend at an angle relative to the shell 102, such as downward and inward.

[0149] The second portion 612 may extend from or be coupled to the first portion 608. For example, the second portion 612 may include an inner wall 614 extending from the chamfer 610. The second portion 612 may include a return 621 extending from the inner wall 614 to define a hook or J shape. For example, the return 621 may curve upward.

[0150] The second portion 612 may include a head portion 624 defining an enlarged portion of the rim coupling structure 606. The head portion 624 may extend from the return 621. The head portion 624 may include a first or top end 626. The top end 626 may be angled. The top end 626 may be sloped towards the rim 600. The head portion 624 may include a second or bottom end 628, opposite the first end 626. The bottom end 628 may be angled or sloped. For example, the bottom end 628 may slope towards the return 621 to define a notch or catch portion 630. The second portion 612 may define a channel 632. The channel 632 may be defined between the head portion 624 and the inner wall 614.

[0151] As discussed herein, and depicted in FIGS. 10A-10C, the frame 540 may be coupled to or defined by a pocket assembly 200. The pocket assembly 200 may be attached to the shell 102 by a snap-fit engagement defined by the engagement of the frame coupling structure 550 and the rim coupling structure 606. For example, second portion 612 may be received in or engaged by the well structure 565 and the hitch structure 552. The snap-fit engagement may be accomplished by moving the frame 540 in a single direction, such as direction 650 in FIG. 10B, to couple the structures. Accordingly, the snap-fit engagement may allow for quick or simple coupling of a front pocket assembly 200 or other attachable component to a shell 102.

[0152] As shown in FIG. 10A, the frame 540 may be positioned above or adjacent the rim coupling structure 606 of the edge portion 600 prior to engagement of the frame coupling structure 550 and the rim coupling structure 606. For example, the leading end 573 may be positioned above the head portion 624.

[0153] Turning to FIG. 10B, the frame 540 or pocket assembly 200 may be lowered or moved downward, as may be indicated by arrow 650, to engage with the rim coupling structure 606. The frame 540 or base flange 541 may resiliently deflect during contact with the rim coupling structure 606. The hitch structure 552 and/or the well structure 565 may contact the second portion 612 and deflect to receive the second portion 612 in the passage 575. For example, tang 557 may contact the head portion 624 at the top end 626 and be deflected into or towards the channel 632 to expand the passage 575.

[0154] Similarly or alternatively, the well structure 565 may contact the head portion 624 to enlarge the passage 575 and/or the slot 559 to receive the head portion 624. For example, the angled leading end 573 may bias the free wall 571 to assist in widening the passage 575 and/or the slot 559, such as in direction 652. Either or both the hitch structure 552 and the well structure 565 may generate tension or bias against the second portion 612 or head portion 624.

[0155] Turning to FIG. 10C, an example of the snap-fit engagement defined by the rim coupling structure 606 and frame engagement structure 550 is depicted. Relative to FIG. 10B, the frame 540 may be further positioned downward in the direction indicated by arrow 650. At the snap-fit engagement, the hitch structure 552 and/or well structure 565 may retain the second portion 612. For example, the hitch structure 552 and the well structure 565 may retain or engage the head portion 624 in the slot 559.

[0156] With reference to the hitch structure 552, as the frame 540 or base flange 541 is moved downward, the hitch structure 552 may bias towards the well structure 565. In some examples, the angle of the tang end 558 may correspond to a profile of the return 621 to facilitate

engagement of the hitch structure 552 and the second portion 612.

[0157] With reference to the well structure 565, as the frame 540 is moved downward the well structure 565 may bias towards the hitch structure 552, as indicated by arrow 656. The well structure 565 may receive or snap-fit to the second portion 612. For example, the leading end 573 may pass the bottom end 628 and be received in the catch 630. The leading end 573 may limit or prevent removal of the head portion 624 downward, such as through the passage 575. In some examples, the tang 557 may deflect into the channel 632 or along the return 621 to provide clearance for the leading end 573 to extend over the bottom end 628.

[0158] Any of the features, components, and/or parts, including the arrangements and configurations thereof shown in any one of FIGS. 10A - 10C can be included, either alone or in any combination, in any of the other examples of devices, features, components, and parts shown in the other figures described herein. Likewise, any of the features, components, and/or parts, including the arrangements and configurations thereof shown and described with reference to the other figures can be included, either alone or in any combination, in the example of the devices, features, components, and parts shown in FIGS. 10A - 10C.

[0159] Turning to FIGS. 11A-11C, another example of a snap-fit engagement structure of a pocket assembly 200 to a shell 102 is depicted. For example, the snap-fit engagement may be between a frame coupling structure 750 and rim coupling structure 806. The frame coupling structure 750 may be defined by a frame 740 and may include the similar or same features as the frame 240 or 540 discussed herein. The rim coupling structure 806 may be defined by or coupled to an edge portion or rim 800 and may include the similar or same feature as the rim 300 or 600 as discussed herein. For example, the rim 800 may be defined by the shell 102 and extend around a portion of the aperture 120.

[0160] The frame 740 may include a base flange 741 defining the body of the frame 740. The base flange 741 may include a top portion 742 and a bottom portion 743. The frame coupling structure 750 may be defined by or connected to the base flange 741. The frame coupling structure 750 may be similar to the frame coupling structure 250 or 550 described herein. For example, the frame coupling structure 750 may be a U-shaped clasp, clip, or clamp structure. The frame coupling structure 750 of this example may have round or curved features and include an oblong or ovular shaped end of a clasp, hook, clip, or clamp structure. The frame coupling structure 750 may include a first portion or hitch structure 752. The hitch structure 752 may extend from the base flange 741. The frame coupling structure 750 may include a second portion or well structure 765 defined by the bottom portion 743 of the base flange 741.

[0161] The hitch structure 752 may include a horizontal or arm portion 754 extending from the base flange 741. The hitch structure 752 may include a tang 757 extending from the arm portion 754. The tang 757 may terminate in a tang end 758. The tang end 758 may be angled or slope to or from the base flange 741 or arm portion 754.

[0162] The well structure 765 may be hooked or curved. The well structure 765 may include a free wall 771. The free wall 771 may be curved (e.g. bowed) or angled relative to the top portion 742. The free wall 771 may extend to a leading curve or end 773 defining a returning feature at an end of the bottom portion 743 of the base flange 741.

[0163] The hitch structure 752 and the well structure 765 may be spaced to define a passage 775. For example, the leading end 773 may be positioned adjacent or spaced from the tang 757. A slot 759 may be defined between the hitch structure 772 and the well structure 765. For example, the slot 759 may be defined at least in part between the tang 757 and free wall 771. The passage 775 may extend into the slot or gap 759.

[0164] The rim coupling structure 806 may be similar to frame coupling structure 306 or 606. For example, the rim coupling structure 806 may extend along the rim or edge portion 800. The rim coupling structure 806 may be a holder or hook shaped feature. The rim coupling structure 806 may include a first portion 808 and a second portion 812. The first portion 808 may include a chamfer 810 extending from the rim 800 or shell 102 extending at an angle relative to the shell 102. The second portion 812 may extend from or be coupled to the first portion 808. For example, the second portion 812 may include an inner wall 814 extending from the chamfer 810. The second portion 812 may include a return 821 defining a hook, curved, or J shape extending from the inner wall 814. In some examples, the second portion 812 may define the hook shaped feature.

[0165] The second portion 812 may include a head portion 824 defining enlarged or larger portion of the rim coupling structure 806. The head portion 824 may extend from the return 821. The head portion 824 may have a curved shaped (e.g. oblong or ovular). The head portion 824 may include a first or top end 826 and a second or bottom end 828, opposite the first end 826. The top end 826 and/or the bottom end 828 may be angled or sloped. A curved face 830 may extend between the top end 826 to the bottom end 828. The curved face 830 may be positioned on a side of the head portion 824 opposite the shell 102. The second portion 812 may define a channel 836 between the head portion 824 and the inner wall 814.

[0166] As discussed herein, and depicted in FIGS. 11A-11C, the frame 740 may be coupled to or defined by a pocket assembly 200. The pocket assembly 200 may be attached to the shell 102 by a snap-fit engagement of the frame coupling structure 750 and the rim coupling structure 806. The snap-fit engagement may be accomplished by moving the frame 740 in a single direction, such as direction 850 depicted in FIG. 11B, to couple the structures. Accordingly, the snap-fit engagement may allow for quick or simple coupling of a front pocket as-

sembly 200 or other attachable component to a shell 102.

[0167] As shown in FIG. 11A, the frame 740 may be positioned above or adjacent the rim coupling structure 806 of the edge portion 800 prior to engagement of the frame coupling structure 750 and the rim coupling structure 806.

[0168] Turning to FIG. 11B, the frame 740 or pocket assembly 200 may be moved, as indicated by arrow 850, to engage with the rim coupling structure 806. As the frame 740 or base flange 741 contacts the rim coupling structure 806, the frame 740 or base flange 741 may resiliently deflect. The hitch structure 752 and/or the well structure 765 may contact the second portion 812 and deflect to receive the second portion 812 in the passage 775. For example, the tang 757 may contact the head portion 824 be deflected into or towards the channel 836 to expand the passage 775. The tang 757 may resiliently bias towards the head portion 824 and remain in contact with the head portion 824. Similarly or alternatively, the well structure 765 may contact the head portion 824. For example, the leading or curved end 773 may contact the top end 826 and deflect outwardly, such as in direction 852. The deflection may widen or enlarge the passage 775 and/or the slot 759 to receive the head portion 824by spacing the free wall 771 from the head portion 824. The curved face 830 of the head portion 834 may guide the leading end 773 and the free wall 771 in direction 852 to widen the passage 775 or slot 759 for the head 824 to enter the slot 759 (e.g. define clearance).

[0169] Turning to FIG. 11C, an example of the snap-fit engagement defined by the rim coupling structure 806 and frame engagement structure 750 is depicted. Relative to FIG. 11B, the frame 740 may be further positioned downward in the direction indicated by arrow 850. At the snap-fit engagement, the hitch structure 752 and the well structure 765 may retain or engage the second portion 812, such as the head portion 824.

[0170] With reference to the hitch structure 752, as the frame 740 or base flange 741 is moved downward the hitch structure 752 may bias towards the well structure 765. Accordingly, the hitch structure 752 may remain in contact with the head 824. In some examples, the angle or slope of the tang end 758 may correspond to a profile of the return 821 to facilitate engagement of the hitch structure 752 and the second portion 812.

[0171] With reference to the well structure 765, the free wall 771 may bias in the direction 856 (e.g. towards the shell 102). For example, as the frame 740 is moved downward, the leading end 773 and the free wall 771 may continue to the bottom end 828 and be received in the catch 834. The leading end 773 may limit or prevent removal of the head portion 824 downward, such as through the passage 775. Accordingly, the snap-fit engagement of the frame coupling structure 750 and the rim coupling structure 806 may be defined.

[0172] Any of the features, components, and/or parts, including the arrangements and configurations thereof shown in any one of FIGS. 10A - 10C can be included, either alone or in any combination, in any of the other examples of devices, features, components, and parts shown in the other figures described herein. Likewise, any of the features, components, and/or parts, including the arrangements and configurations thereof shown and described with reference to the other figures can be included, either alone or in any combination, in the example of the devices, features, components, and parts shown in FIGS. 10A - 10C.

[0173] By allowing the attachment of various components, such as a front pocket assembly 200, by a snap-fit engagement to the shell 102, 104, the difficulty of or time required for attaching components to the luggage case 100 may be reduced. Additionally, the snap-fit engagement may allow a customer to select or customize various combinations or styles of components attached to the shell. For example, a larger or smaller pocket assembly 200 may be selected. In some examples, various colors, textures, fabrics or other aesthetic features may be combined or selected.

[0174] With reference to the above-described examples of the rim coupling feature and the frame coupling feature, the rim coupling structure (306, 606, 806) may include at least two discrete rim coupling structures positioned at different locations along at least a portion of one of the edge portion (300, 600, 800) or the pocket assembly (200), and the frame coupling structure (250, 282, 550, 750) includes at least two discrete frame coupling structures positioned at different locations along at least a corresponding portion of the other of the edge portion (300, 600, 800) or the pocket assembly (200). When engaged together, the corresponding discrete rim coupling structure and frame coupling structure form a snap-fit connection of the pocket assembly 200 to the edge portion (300, 600, 800) of the luggage case 100.

[0175] Continuing with reference to the above-described examples, in a further example, the aperture or recess (120) on the luggage case 100 may define at least 4 sides and the pocket assembly (200) may defines at least 4 sides. A discrete rim coupling structure (306, 606, 806) may be positioned on each of the at least 4 sides of one of the aperture or the recess (120) or each of the at least 4 sides of the pocket assembly (200. A discrete frame coupling structure 250, 282, 550, 750 may be correspondingly positioned on each of the at least 4 sides of the other of the aperture or recess (120) or each of the at least 4 sides of the pocket assembly 200. When engaged together, the corresponding discrete rim coupling structure and frame coupling structure form a snap-fit connection of the pocket assembly 200 to the edge portion 300, 600, 800 of the luggage case 100.

[0176] With reference to FIGS. 12-15B, another example of luggage case 100 includes a shell 102 including a rim coupling structure 1600 to engage with a corresponding frame coupling structures 1516 of an additional component. In the examples depicted in FIGS. 12-15B, the additional component may be a closure assembly 1500, such as a zipper. In this example, the shell 102 may

include an aperture 120 defining an internal storage volume. An edge portion or rim 300 may extend around the aperture 120. In some examples, the rim 300 may extend around a periphery of the shell 102. The closure assembly 1500 may be attachable or removable to a rim coupling structure 1600 of the shell 102.

[0177] In this example, the closure assembly 1500 may externally mount to the rim coupling structure 1600. In this example, the rim coupling structure 1600 may be formed along at least a part of the length of the edge portion or rim 300 of the shell 102, and in one example the rim coupling structure 1600 may extend from the edge portion or rim 300 of the shell 102. The rim coupling structure 1600 may extend outwardly from a base feature 1624 positioned along the inner surface 1136 of the shell 102. In some examples, the rim coupling structure 1600 may extend in two directions, such as for example opposite directions, to form an anchor 1608 for the closure assembly 1500 to attach to the shell 102.

[0178] The closure assembly 1500 of this example may also be referred to as a snap-fit closure assembly 1500. The closure assembly 1500 may engage a rim coupling structure 1600 by snap-fit engagement. The closure assembly 1500 may include two zip strips 1502 selectively engageable along a line of connection 122. Each zip strip 1502 may include interengaging features 1506 (such as for example zipper teeth 1510 or zipper coils), a zip tape 1504, and a frame coupling structure 1516. The interengaging features 1506 may extend along at least a portion of the length of the inner edge 1512 of the zip tape 1504.

[0179] The frame coupling structure may include a base flange 1517 defining the portion of the frame coupling structure 1516 attached or in contact with the zip tape 1504. The frame coupling structure 1516 may include a first frame coupling structure 1518. The frame coupling structure may include a second frame coupling structure 1520 extending along at least a portion of the length of the zip strip 1502. The frame coupling structure 1516 and/or the first frame coupling structure 1516 or the second frame coupling structure 1520 may be continuous or segmented. The base flange 1517 may have an inner surface 1532 and an outer surface 1534. Either of the inner surface 1532 or the outer surface 1534 may be attached to the zip tape 1504 along a corresponding outer surface 1538 or inner surface 1541 of the zip tape 1504. The frame coupling structure 1516 may be stitched, adhered, molded to, or otherwise attached to the zip tape 1504.

[0180] As shown in FIG. 13 - 15B, the second frame coupling structure 1520 may extend from a surface of the base flange 1517. In one example, the second frame coupling structure 1520 may extend from the inner surface 1532 of the base flange 1517 and away from the inner edge 1512. The second frame coupling structure 1520 may include a catch feature 1524 to engage a feature of a rim coupling structure 1600. The second frame coupling structure 1520 may be flexible or rigid. The second frame coupling structure 1520 may define a recess 1522 between the catch feature 1524 and the first frame coupling structure 1518 to retain a portion of a rim coupling structure 1600. A neck 1526 may be defined between the catch feature 1524 and the first frame coupling structure 1518. The catch feature 1524 may, in one example, be a hook, detent, or flange. The catch feature 1524 may be spaced from the first frame coupling structure 1518 to define a gap 1530. The gap 1530 may define an entrance to the recess 1522. The recess 1522 may receive a portion of the rim coupling structure 1600 and the catch feature 1524 may engage with, or around, another portion of the rim coupling structure 1600.

[0181] With respect to FIG. 12, the frame coupling structure 1516 may optionally be grooved 1540. The optional grooves 1540 may be defined by cutouts 1544 formed on the frame coupling structure 1516. The grooves 1540 may provide additional flexibility to the frame coupling structure 1516. The additional flex may make it easier to attach or remove the zip strip 1502 from the shell 102 in the region where the grooves 1540 are formed, such as around corners of the shell 102. Including the grooves 1540 may allow the frame coupling structure 1516 to be made from a comparably more rigid material and result in a more secure attachment of a zip strip 1502 to a shell 102.

[0182] The rim coupling structure 1600 may extend along all or part of the rim 300 of the luggage shell 102, and be positioned on the inside of the edge portion 300. The rim coupling structure 1600 may be spaced from or defined along at least a part of the length of the rim 300. The rim coupling structure 1600 may include a first portion 1602 and a second portion 1604 extending from a base feature 1624. The base feature 1624 may space the first portion 1602 and second portion 1604 from a surface of the shell 102. The base feature 1624 may be defined by a portion of the shell 102. In some examples, the base feature 1624 may be separate or a segment of the first 1602 and/or second portions 1604. The first portion 1602, second portion 1604, and base feature 1624 may together define an anchor 1608 to engage with the closure assembly 1500.

[0183] The second portion 1604 may extend from the base feature 1624 inward along the inner surface of the shell 102. The second portion 1604 may have an inner surface 1616 and an outer surface 1618, and an edge 1620 between the inner surface 616 and the outer surface 1618. The first portion 1602 may extend from the base feature 1624 in a direction away from the second portion 1604. The first portion 1602 may define an inner surface 1610, an outer surface 1612, and an edge 1614 between the inner surface 1616 and the outer surface 1618. The inner surface 1610 of the first portion 1602 may extend into the inner surface 1616 of the second portion 1604. The first portion 1602 and the second portion 1604 may have similar dimensions. In one example, as shown, the first portion 1602 may extend further from the base feature 1624 than the second portion 1604.

[0184] As shown in FIG. 14, the rim coupling structure 1600 may be received by the frame coupling structure 1516. For example, the rim coupling structure 1600 may be received in the recess 1522. The zip strip 1502 may snap-fit to or flex around the rim coupling structure 1600, as indicated by arrow 1630. When a zip strip 1502 is engaged to the rim coupling structure 1600, the rim coupling structure 1600 may fit within the recess 1522. The edge 1614 of the first portion 1602 of the rim coupling structure 1600 may be in contact with the neck 1526 of the second frame coupling structure 1520. The catch feature 1524 may engage the second portion 1604 of the rim coupling structure 1600, with the catch feature 1524 extending around the edge 1620 of the second portion 1604. The base feature 1624 may sit within the gap 1530. When the rim coupling structure 1600 is positioned in the recess 1522, the base feature 1624 may position the zip strip 1502 at or near flush with the outer surface 138 of the shell 102. For example, the outer surface 1610 of the first portion 1602 may be in contact with the inner surface 1532 of the zip strip 1502. The second frame coupling structure 1520 and the second portion 1604 may act to prevent movement transverse to the rim coupling structure 1600. The catch feature 1524 and the second portion 1604 may act to prevent movement transverse to the rim coupling structure 1600 in the direction of second shell 102.

[0185] The recess 1522 may define a volume greater than the volume of the rim coupling structure 1600 to allow for easier attachment or insertion. In another example, the recess 1522 may define a volume less than the volume of the rim coupling structure 1600 and stretch or flex to accommodate the rim coupling structure 1600, defining an interference fit. An interference fit may reduce play in the closure assembly 1500 relative to the shells 102, 104.

[0186] As described above, two shells 102, 104 may be aligned and the closure assembly 1500 may engage at least part of the rim coupling structures 1600 of both shells 102, 104 during installation. In other examples, frame coupling structures 1516 of the first zip strip 1502 of the closure assembly 1500 may separately engage the first rim coupling structure 1600 of the first shell 102, and separately the second zip strip 1502 of the closure assembly 1500 may engage the second rim coupling structure 1600 of the second shell 104. After installation on each respective shell 102, 104, with the shells 102, 104 configured together as a suitcase 100, the frame coupling structures of the first zip strip 1502 and the second zip strip 1502 may be secured together to form the closure assembly 1500. Similarly, the zip strips 1502 may be separately removed and replaced.

[0187] As shown in the figures, this example of the closure assembly 1500 may respectively slidably attach to the rim coupling structures 1600, and/or may respectively flex or snap-fit to attach to the rim coupling structures 1600. With respect to the snap-fit attachment, the first portion of the rim coupling structure 1600 may be inserted into the recess 1522 through the gap 1530. As shown in FIG. 15A, the frame coupling structure 1516 may flex or deflect outwardly to temporarily increase the size of the opening to accommodate the first portion 1602, as indicated by arrow 1640. Once inserted the outer surface 1610 of the first portion 1602 may contact the inner surface 1532 of the frame coupling structure 1516. The edge 1614 of the first portion 1602 may contact the neck 1526 of the second frame coupling structure 1520 when fully inserted into the recess 1522. The catch feature 1524 of the frame coupling structure 1516, having been deflected outwardly may then return to its first positon and pass by the edge 1620 of the second portion 1604. The catch feature 1524 may then be positioned under the edge 1620 of the second portion 1604 and capture and retain the base feature 1624 within the recess 1522. The catch feature 1524 may additionally or alternatively engage the inner surface 1612 of the second portion 1604, as shown in FIG. 15B. To remove the closure assembly 1500, the catch feature 1624 may be deflected from the inner surface 1616 of the second portion 1604 and pass over the edge 1620 to release the catch feature 1624 from the second portion 1604. The first portion 1602 may then be removed from the recess 1522 through the gap 1530. The snap-fit attachment may begin at one end of the zip strip 1502, with the snap-fitting onto the rim coupling structure 1600 progressing along the length of the zip strip 1502 to the opposite second end.

[0188] Prior to attachment, as shown in FIG. 13, the closure assembly 1500 may be aligned with rim coupling structures 1600. In some examples, the closure assembly 1500 may be attached to either shells 102, 104 in the same process, or the shells 102, 104 individually. The first 1602 and second portion 1604 may enter the recess 1522, and the closure assembly 1500 may be engaged along a length of the rim coupling structure 1600 to mount the closure assembly 1500 to the rim coupling structure 1600. For example, the snap-fit engagement may start at one end and move to another end (e.g. occur along the length of the rim coupling structure 1600). To remove the closure assembly 1500, the closure assembly 1500 may be flexed or opened, such as by moving in the opposite direction of installation, and off the open end of the rim coupling structure 1600. The surfaces of the closure assembly 1500 and/or rim coupling structure 1600 may be smooth to facilitate easier installation and/or removal.

[0189] In one example, each zip strip 1502 may be installed individually onto a rim coupling structure 1600 on a respective shell 102, 104. In another example, each zip strip 1502 may be removed individually from a respective shell 102, 104. In another example, a replacement zip strip 1502 may be installed individually onto a rim coupling structure 1600 on a respective shell 102, 104 to replace a zip strip 1502 that was removed from the respective shell 102, 104. This may allow a user to replace only a portion of the closure assembly 1500, or to combine different zip strips 1502 with desired features or

to achieve a desired aesthetic (e.g. color, or texture).

[0190] Any of the features, components, and/or parts, including the arrangements and configurations thereof shown in any one of FIGS. 12-15B can be included, either alone or in any combination, in any of the other examples of devices, features, components, and parts shown in the other figures described herein. Likewise, any of the features, components, and/or parts, including the arrangements and configurations thereof shown and described with reference to the other figures can be included, either alone or in any combination, in the example of the devices, features, components, and parts shown in FIGS. 12-15B.

[0191] The particulars shown herein are by way of example and for purposes of illustrative discussion of the preferred embodiments of the present invention only and are presented in the cause of providing what is believed to be the most useful and readily understood description of the principles and conceptual aspects of various embodiments of the invention. In this regard, no attempt is made to show structural details of the invention in more detail than is necessary for the fundamental understanding of the invention, the description taken with the drawings and/or examples making apparent to those skilled in the art how the several forms of the invention may be embodied in practice.

[0192] As used herein and unless otherwise indicated, the terms "a" and "an" are taken to mean "one", "at least one" or "one or more". Unless otherwise required by context, singular terms used herein shall include pluralities and plural terms shall include the singular.

[0193] Unless the context clearly requires otherwise, throughout the description and the claims, the words 'comprise', 'comprising', and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of "including, but not limited to". Words using the singular or plural number also include the plural and singular number, respectively. Additionally, the words "herein," "above," and "below" and words of similar import, when used in this application, shall refer to this application as a whole and not to any particular portions of the application.

[0194] It is to be appreciated that any one of the examples, embodiments or processes described herein may be combined with one or more other examples, embodiments and/or processes or be separated and/or performed amongst separate devices or device portions in accordance with the present systems, devices and methods.

[0195] Finally, the above discussion is intended to be merely illustrative of the present system and should not be construed as limiting the appended claims to any particular embodiment or group of embodiments. Thus, while the present system has been described in particular detail with reference to exemplary embodiments, it should also be appreciated that numerous modifications and alternative embodiments may be devised by those having ordinary skill in the art without departing from the broader and intended spirit and scope of the present system as set forth in the claims that follow. Accordingly, the specification and drawings are to be regarded in an illustrative manner and are not intended to limit the scope of the appended claims.

Claims

1. A luggage case (100) comprising:

at least one shell (102, 104) defining an aperture or a recess (120), and having an edge portion (300, 600, 800) extending around at least a portion of the aperture or the recess (120);
a pocket assembly (200) coupleable to the edge portion (300, 600, 800); and
wherein:

a rim coupling structure (306, 606, 806) is defined along at least a portion of one of the edge portion (300, 600, 800) or the pocket assembly (200),
a frame coupling structure (250, 282, 550, 750) is defined along at least a corresponding portion of the other of the edge portion (300, 600, 800) or the pocket assembly (200), and
the frame coupling structure (250, 550, 750) couples to the rim coupling structure (306, 606, 806) by a snap-fit engagement to attach the pocket assembly (200) to the at least one shell (102, 104).

2. The luggage case (100) of claim 1, wherein:

the rim coupling structure (306, 606, 806) includes at least two discrete rim coupling structures positioned at different locations along at least a portion of one of the edge portion (300, 600, 800) or the pocket assembly (200); and
the frame coupling structure (250, 282, 550, 750) includes at least two discrete frame coupling structures positioned at different locations along at least a corresponding portion of the other of the edge portion (300, 600, 800) or the pocket assembly (200).

3. The luggage case (100) of claim 2, wherein:

the aperture or recess (120) defines at least 4 sides and the pocket assembly (200) defines at least 4 sides;
a discrete rim coupling structure (306, 606, 806) is positioned on each of the at least 4 sides of one of the aperture or the recess (120) or each of the at least 4 sides of the pocket assembly (200); and

a discrete frame coupling structure (250, 282, 550, 750) is correspondingly positioned on each of the at least 4 sides of the other of the aperture or recess (120) or each of the at least 4 sides of the pocket assembly (200).

4. The luggage case (100) of any of claims 1 to 3, wherein:

the at least one shell (102, 104) includes the rim coupling structure (306, 606, 806) formed along the portion of the edge portion (300, 600, 800); and
the pocket assembly (200) includes the frame coupling structure (250, 550, 750).

5. The luggage case (100) of any of claims 1 to 4, wherein:

the frame coupling structure (250, 550, 750) defines a U-shaped clamp or clip feature (252, 265, 552, 565, 752, 765) defining a slot (276, 559, 759), and
the rim coupling structure (306, 606, 806) defines a hook shaped feature (308, 312, 608, 612, 808, 812), and
the hook shaped feature (308, 312, 608, 612, 808, 812) is received in the slot (276, 559, 759) and retained by the frame coupling structure (250, 550, 750) in a snap-fit engagement.

6. The luggage case (100) of any of claims 1 to 5, wherein:

the rim coupling structure (306, 606, 806) is integral with and extends from the edge portion (300, 600, 800); and
the frame coupling structure (250, 550, 750) is defined by a frame (240, 241, 540, 541, 740, 741) coupled to the pocket assembly (200).

7. The luggage case (100) of any of claims 1 to 6, wherein:
the frame coupling structure (250, 550, 750) is an elongated feature extending along a side (248) of the pocket assembly (200).

8. The luggage case (100) of any of claims 6 or 7, wherein the frame (240, 241, 540, 541, 740, 741) comprises:

a plurality of sides (248), and
a plurality of frame coupling structures (250, 550, 750) including at least one frame coupling structure (250, 550, 750) positioned on and extending at least partially along each of the plurality of sides (248).

9. The luggage case (100) of any of claims 5 to 8, wherein:

the rim coupling structure (306, 606, 806) includes:
a head portion (321, 624, 824),
the frame coupling structure (250, 550, 750) includes
a base flange (241, 541, 741) defining the slot (276, 559, 759),
the frame coupling structure (250, 550, 750) corresponds to the rim coupling structure (306, 606, 806), and
the head portion (321, 624, 824) is received in the slot (276, 559, 759) to selectively couple the frame coupling structure (250, 550, 750) and the rim coupling structure (306, 606, 806).

10. The luggage case (100) of claim 9, wherein the frame coupling structure (250, 550, 750) includes:
the base flange (241, 541, 641) including:

a top portion (242, 542, 742), and
a bottom portion (243, 543, 743),
the bottom portion (243, 543, 743) forming the U-shaped receiving feature and defined in part by a free wall (271, 571, 771).

11. The luggage case (100) of claim 10, wherein:

the base flange (241, 541, 741) includes:
a hitch structure (252, 552, 752) extending towards the free wall (271, 571, 771) and including a tang (257, 557, 757) spaced from the base flange (241, 541, 741) to define a gap (259), and the tang (257, 557, 757) is received in the channel (326, 559, 759) and the catch portion (324) is received in the gap (259) to maintain engagement and retain the frame coupling structure (250, 550, 750) with the rim coupling structure (306, 606, 806).

12. The luggage case (100) of any of claims 4 to 11, wherein:

the edge portion (300, 600, 800) includes at least one corner region (330),
the corner region (330) includes a corner rim coupling structure (332),
the pocket assembly (200) includes:
a corner portion (280) including a corner frame coupling structure (282), and the corner rim coupling structure (332) supports the corner frame coupling structure (282).

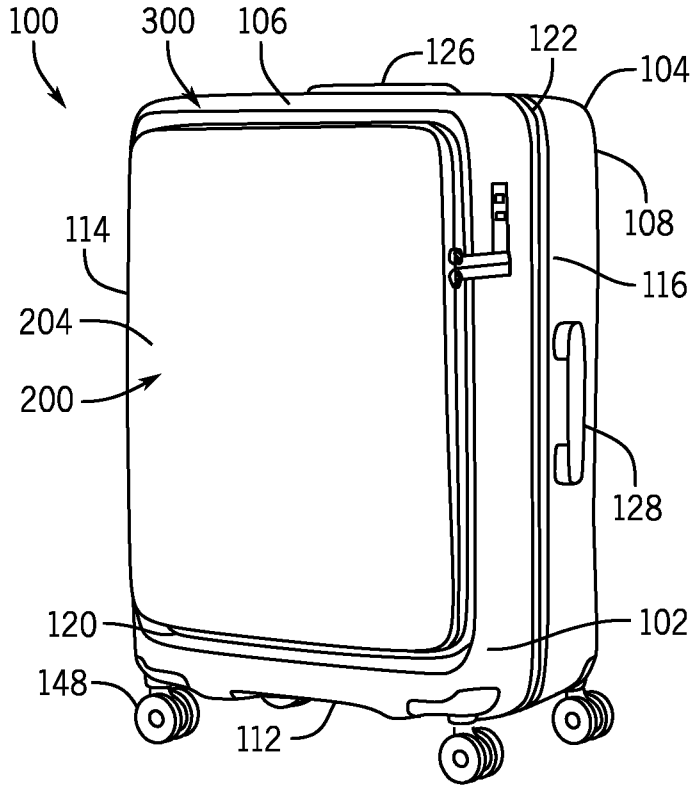
13. The luggage case (100) of any of claims 4 to 12, wherein:

the rim coupling structure (306, 606, 806) defines a rib (345); and
the frame coupling structure (250, 550, 750) contacts the rib (345) to limit movement of the frame coupling structure (250, 550, 750) relative to the rim coupling structure (306, 606, 806).

14. The luggage case (100) of any of claims 1 and 4 to 13, wherein:

the pocket assembly (200) includes at least four sides (248) and at least four corner portions (280), and
the aperture or the recess (120) is defined by at least four sides (328) and at least four corner regions (330) of the edge portion (300, 600, 800).

15. The luggage case (100) of any of claims 1 to 14, wherein the aperture or the recess (120) is a recess having a bottom wall, or an opening extending into an interior region of the at least one shell (102, 104), or an opening formed in a bottom wall of a recess defined in the at least one shell (102, 104).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300
106
126
122
104
108
114
116
204
200
128
120
102
148
112

FIG. 1

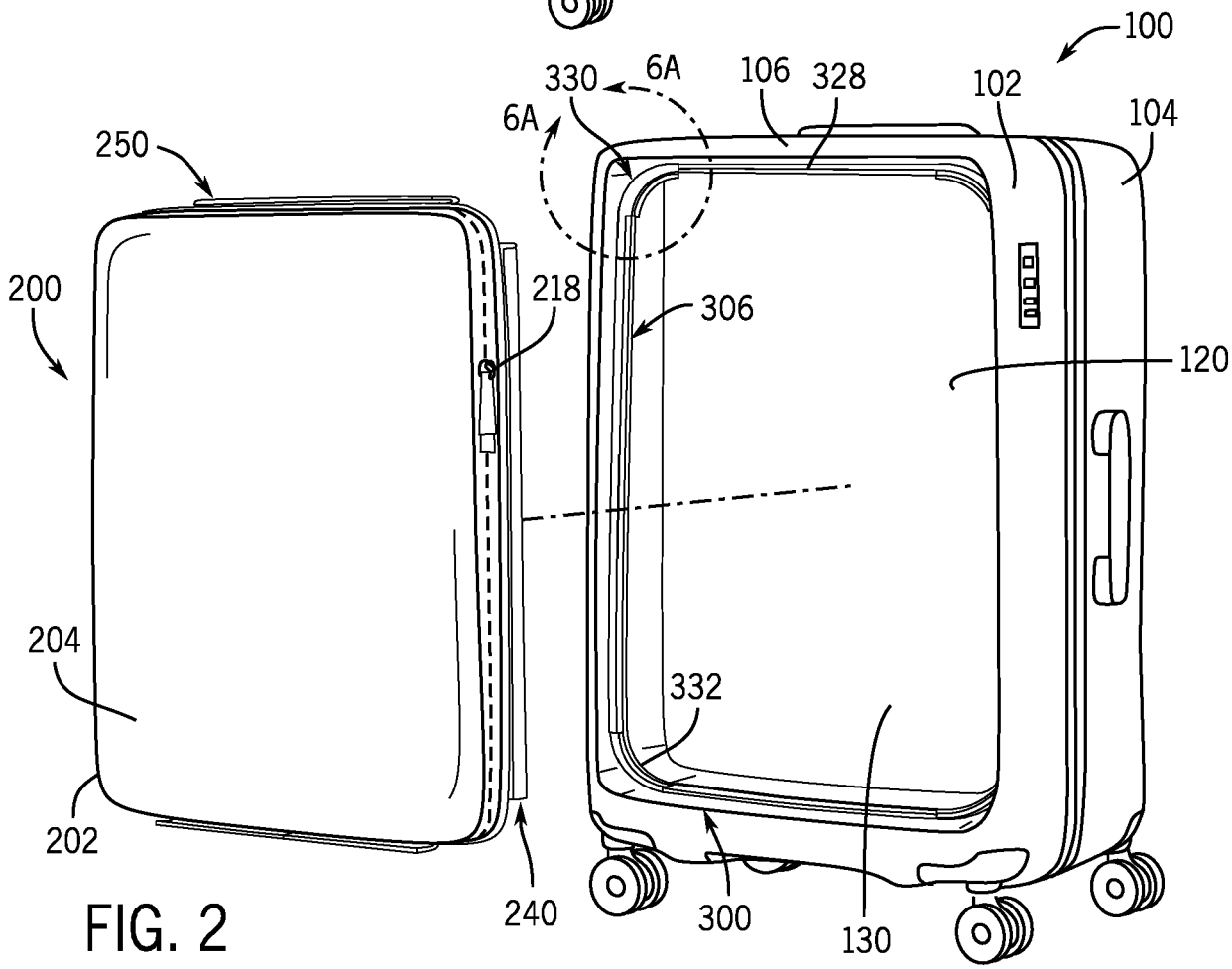

100
330
6A
6A
106
328
102
104
250
200
218
306
120
204
332
202
240
300
130

FIG. 2

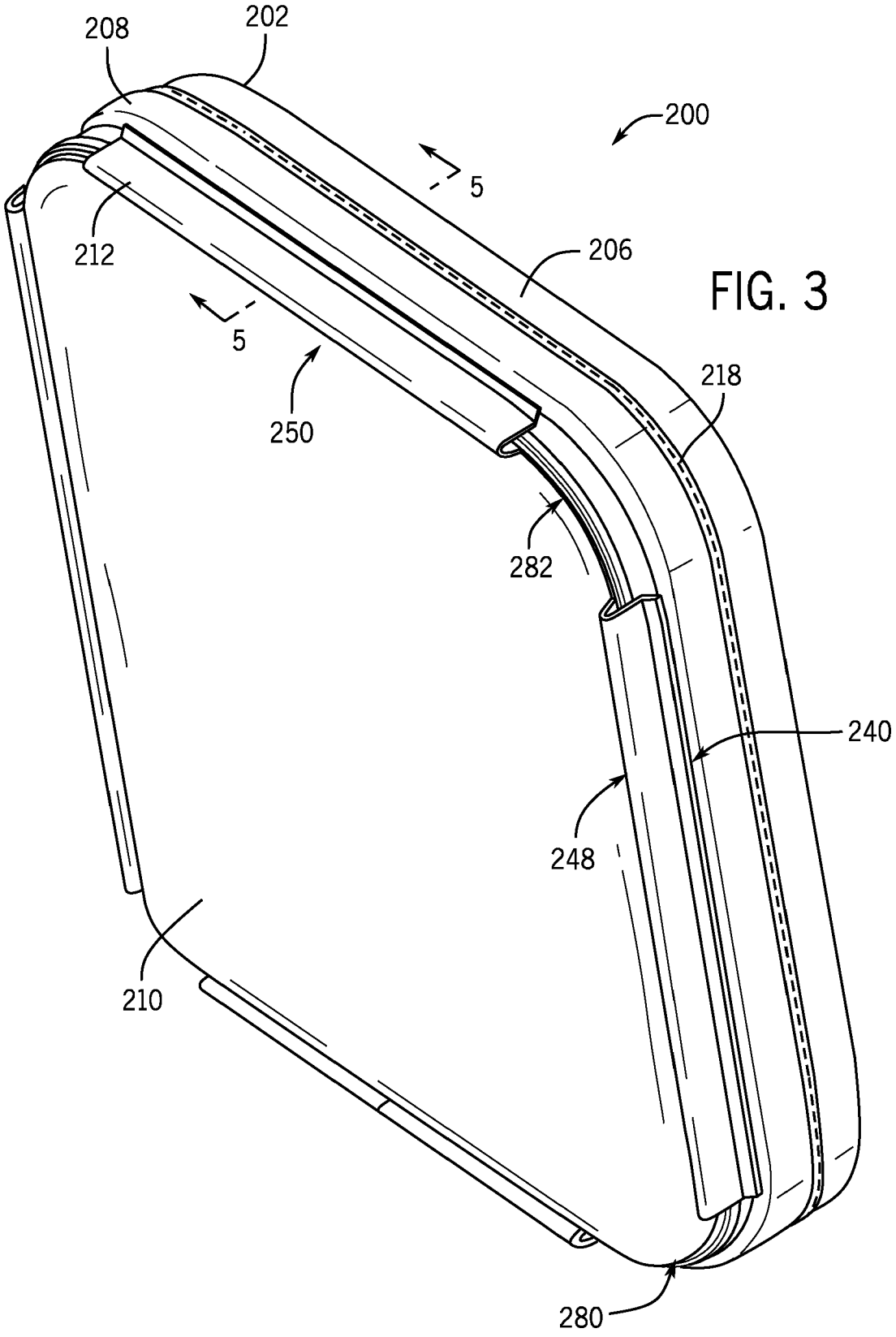


FIG. 3

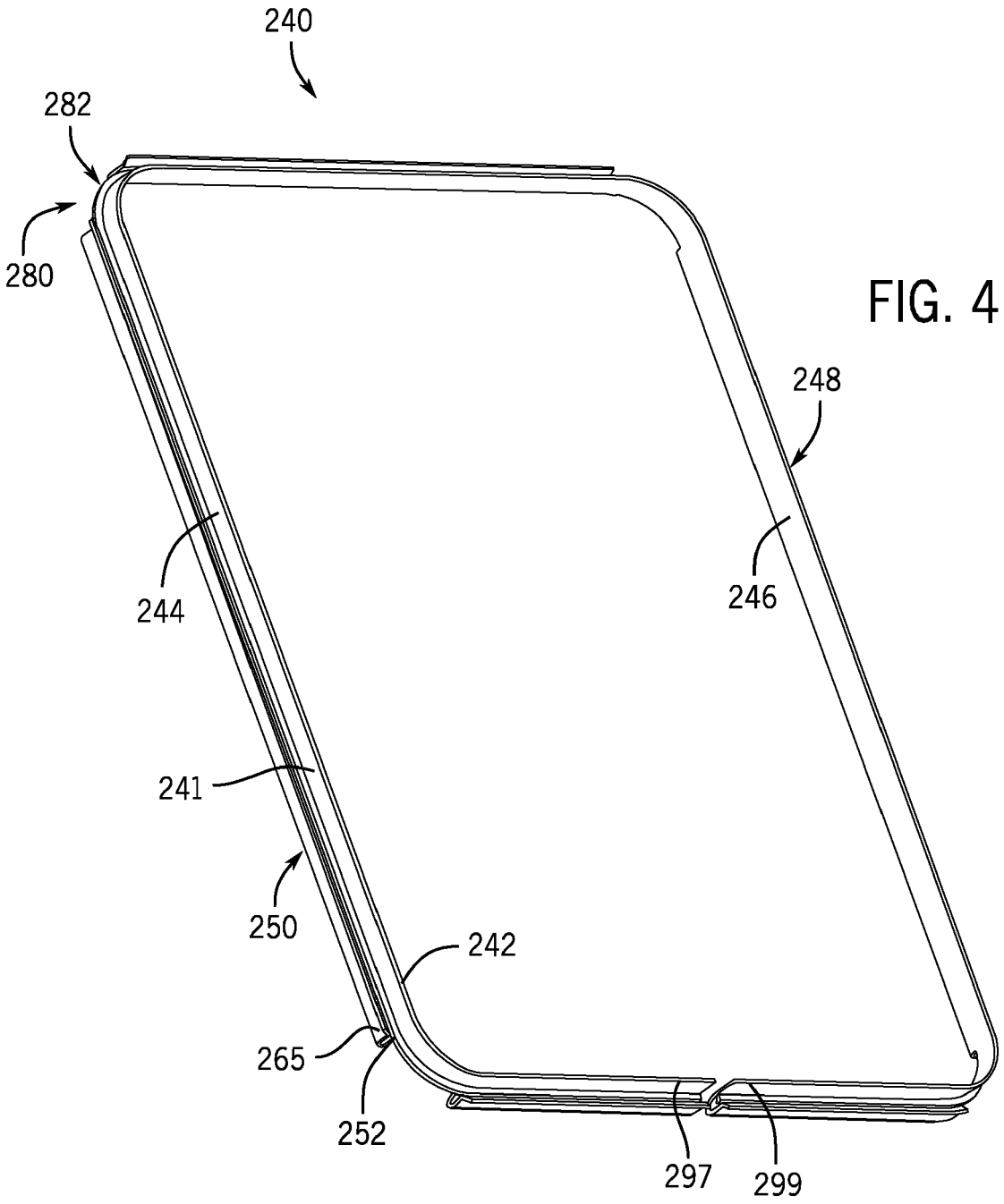
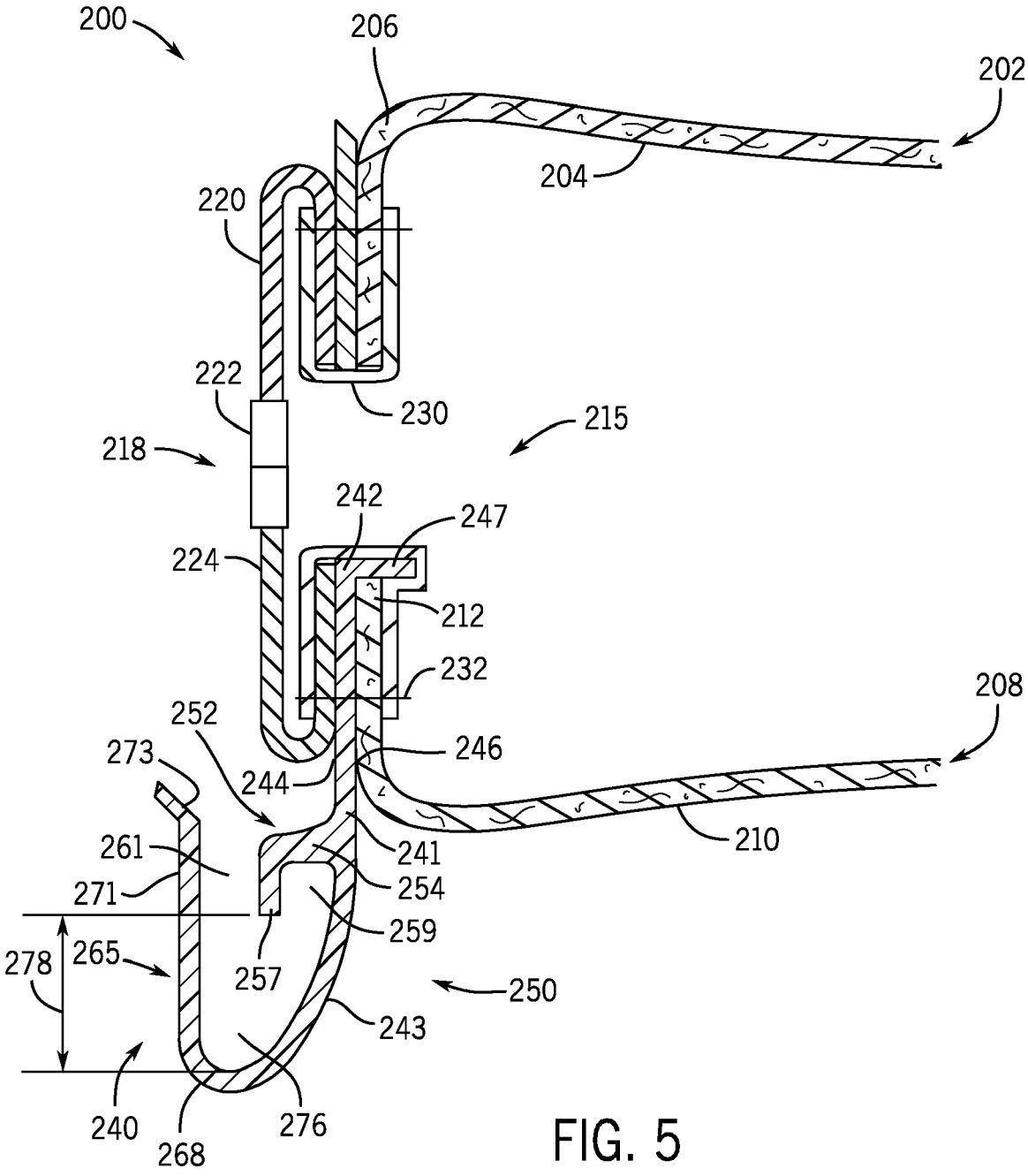


FIG. 4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206
202
204
220
222
230
215
218
242
247
224
212
232
208
252
273
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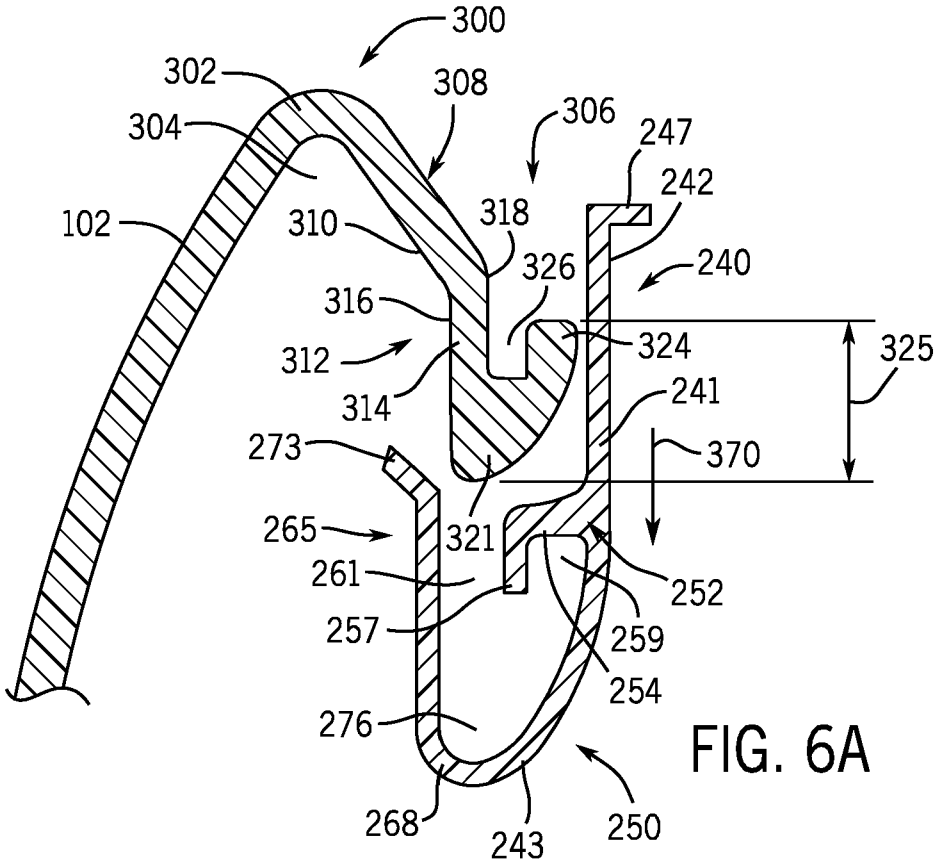
244
210
261
241
271
254
259
278
265
257
250
243
240
268
276

FIG. 5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247
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242
102
310
318
326
240
316
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325
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370
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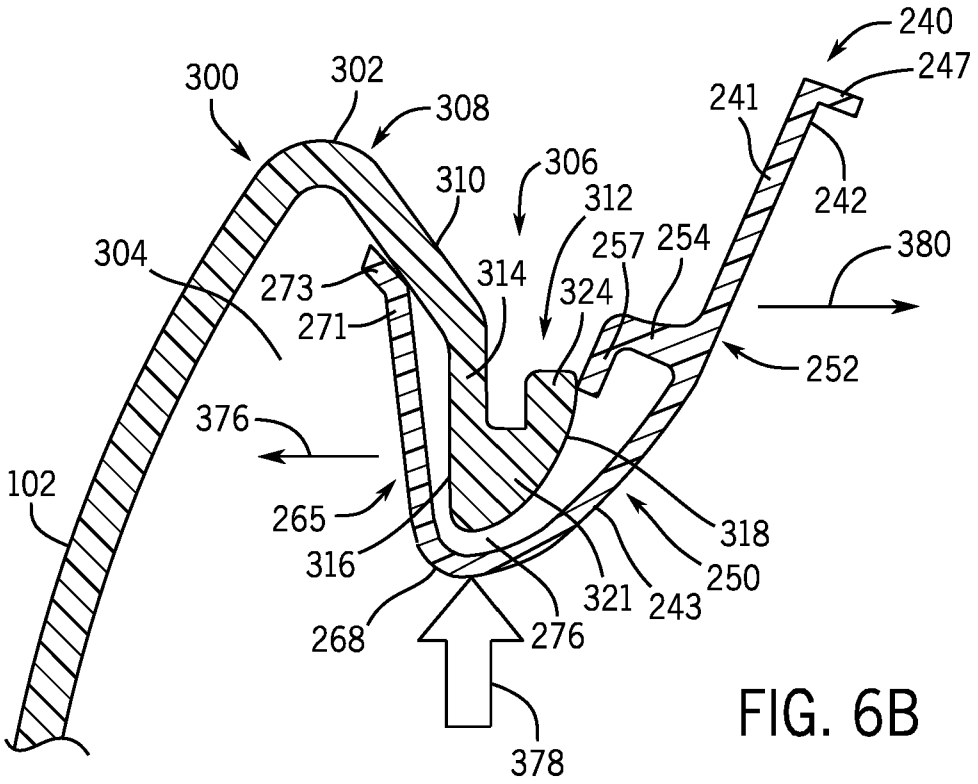
265
321
261
252
257
259
254
276
268
243
250

FIG. 6A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247
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241
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242
304
257
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380
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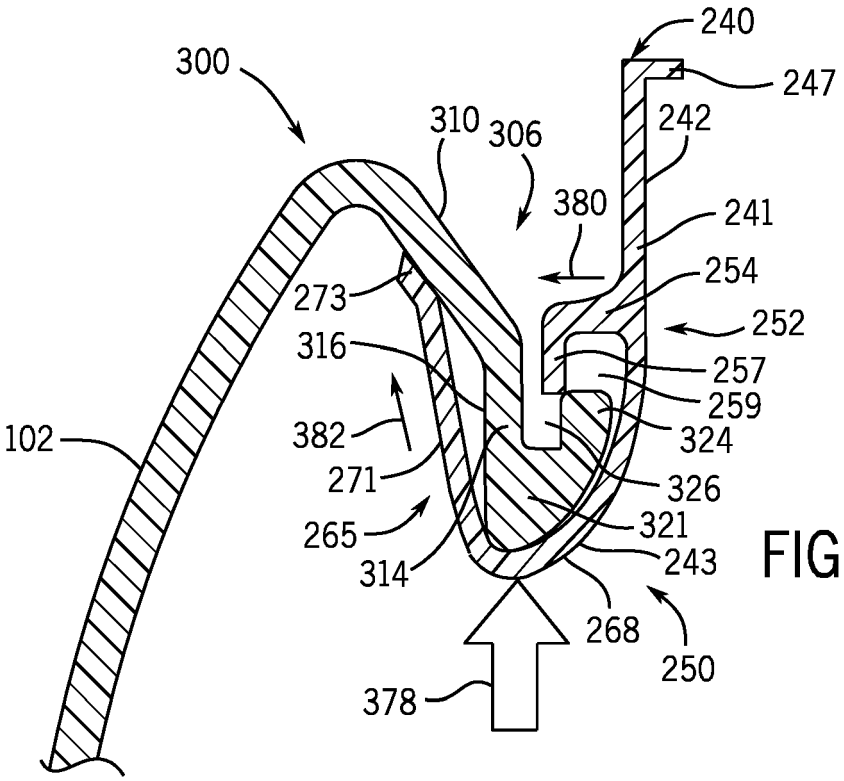
324
271
252
376
102
265
318
316
321
243
250
268
276
378

FIG. 6B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306
242
380
241
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382
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271
326
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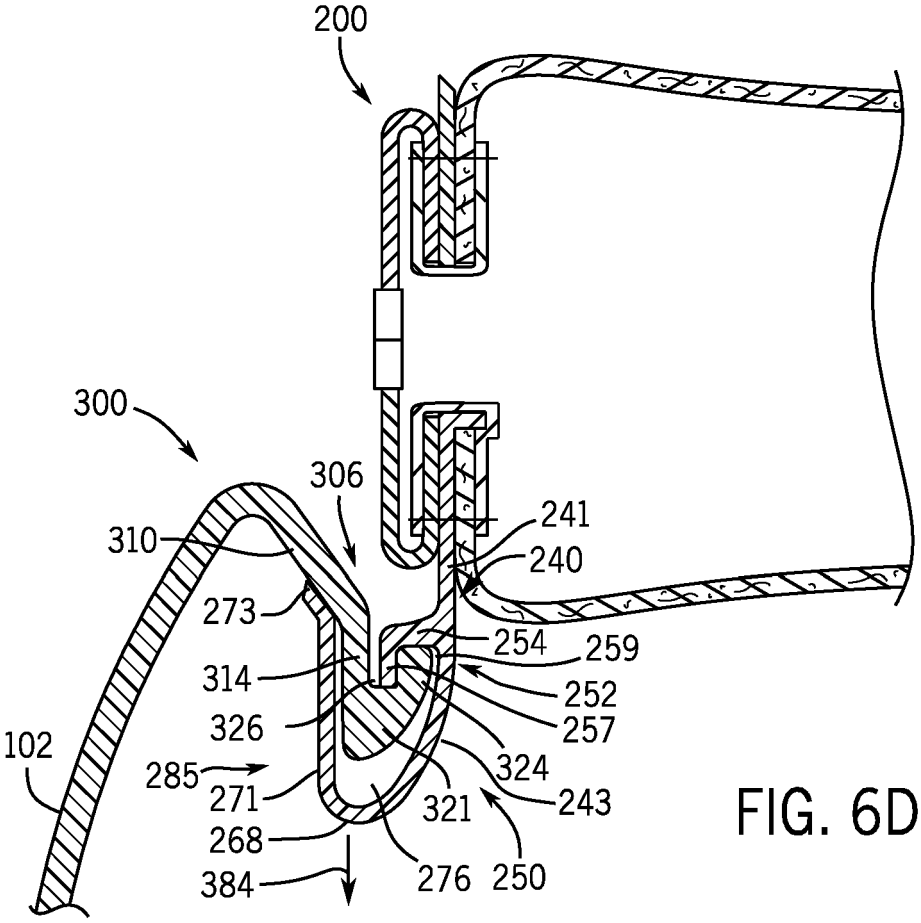
321
314
243
268
250
102
378

FIG. 6C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300
306
241
310
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273
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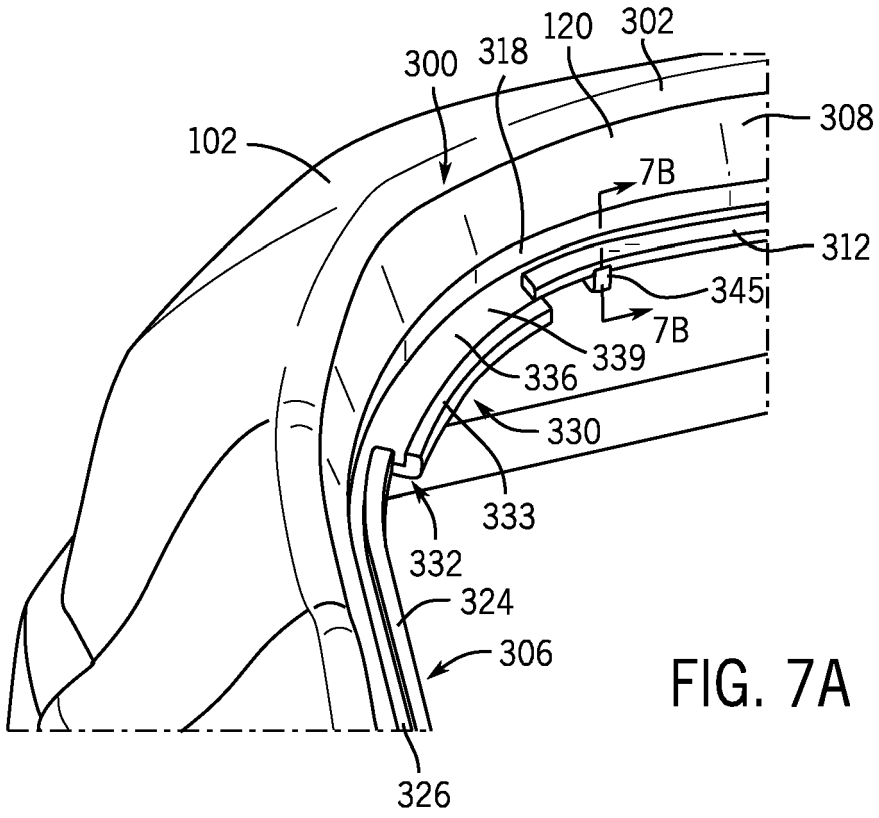
252
326
257
102
324
285
271
321
243
268
276
250
384

FIG. 6D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318
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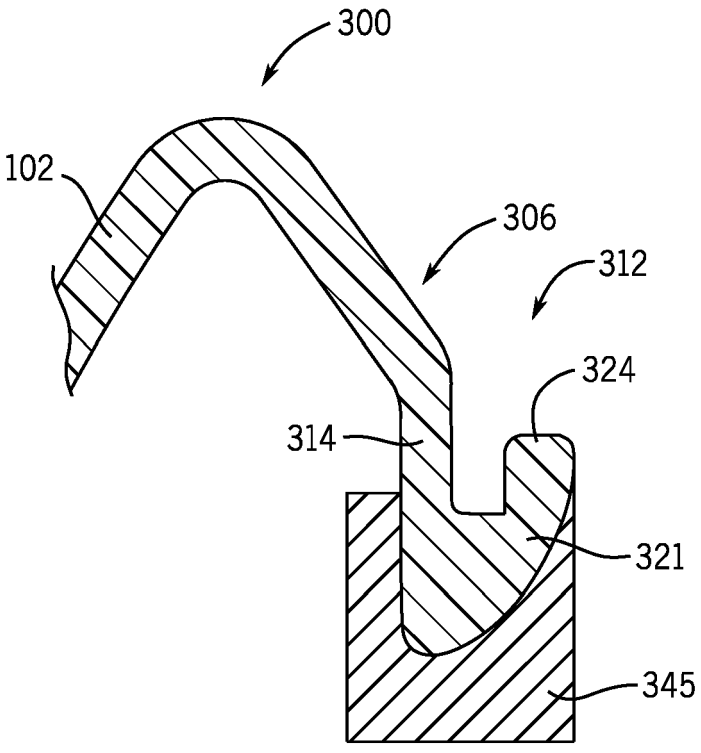
102
7B
312
345
7B
339
336
330
333
332
324
306
326

FIG. 7A


300
102
306
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324
314
321
345

FIG. 7B

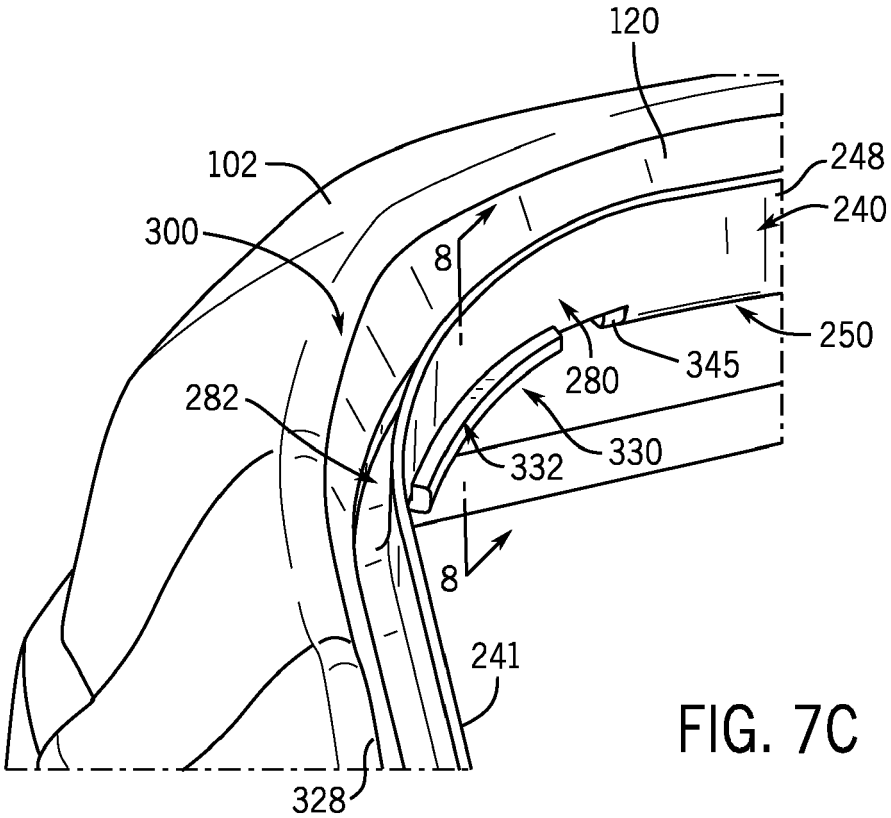
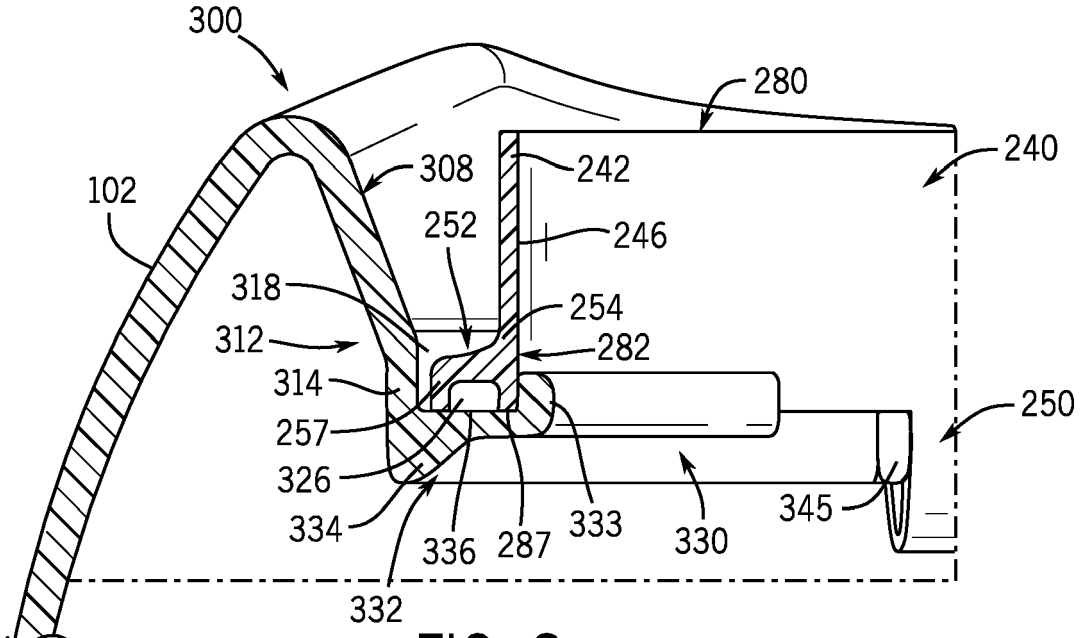


FIG. 7C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282
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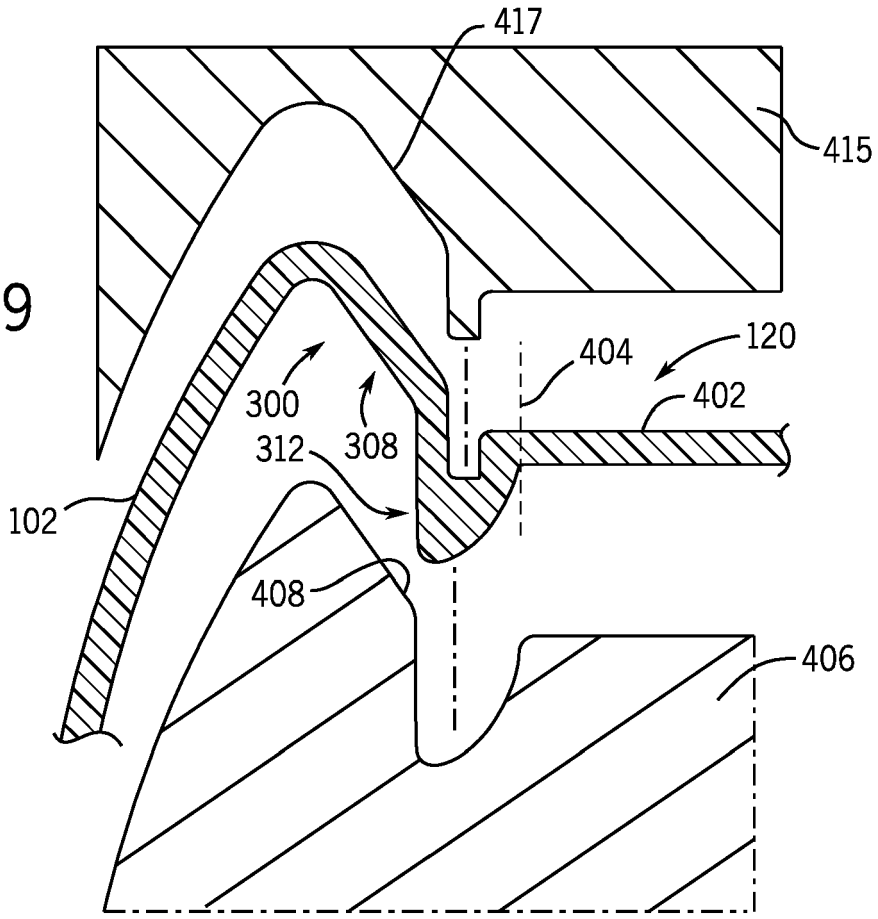
330
336
287
332

FIG. 8

FIG. 9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402
312
308
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408
406

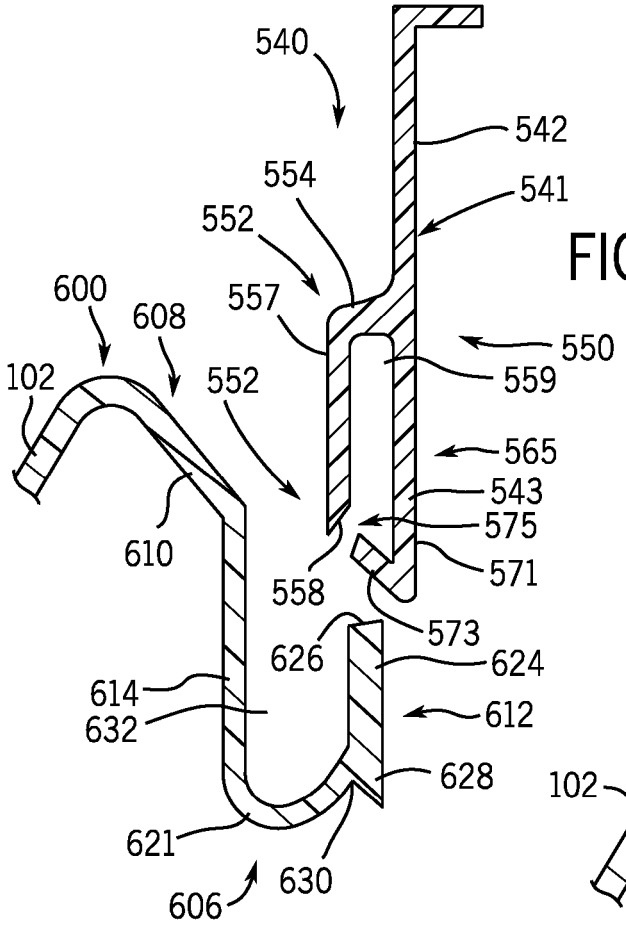


FIG. 10A

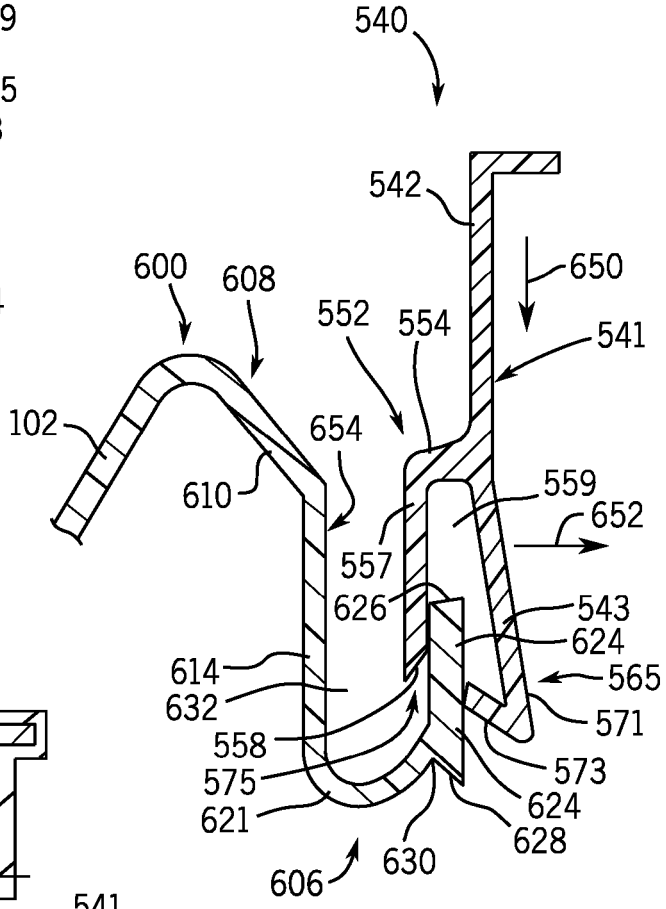


FIG. 10B

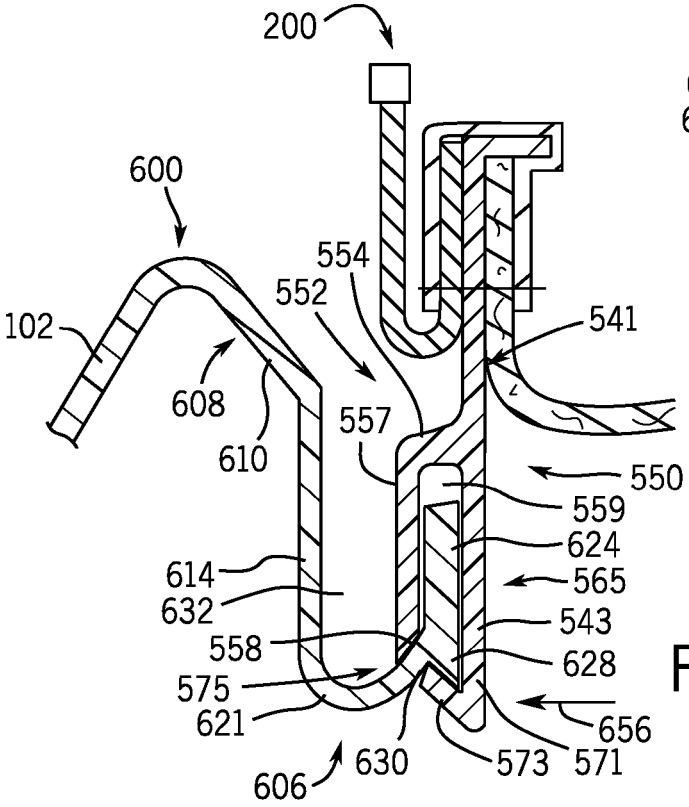


FIG. 10C

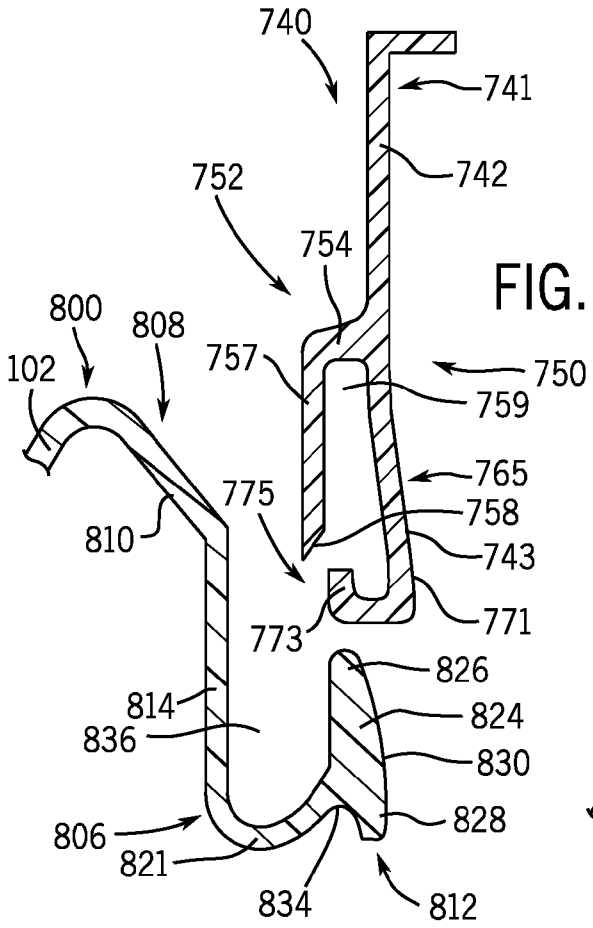


FIG. 11A

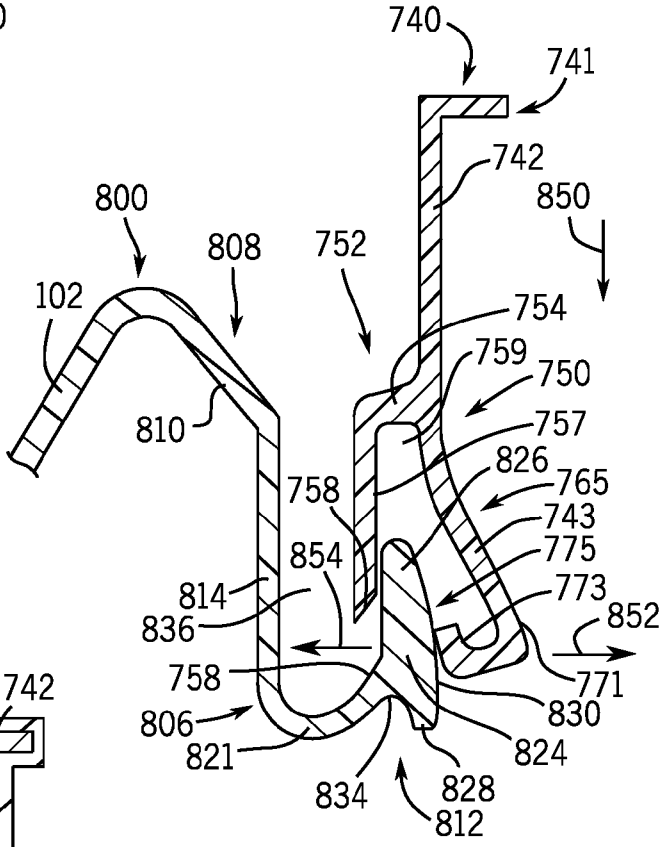


FIG. 11B

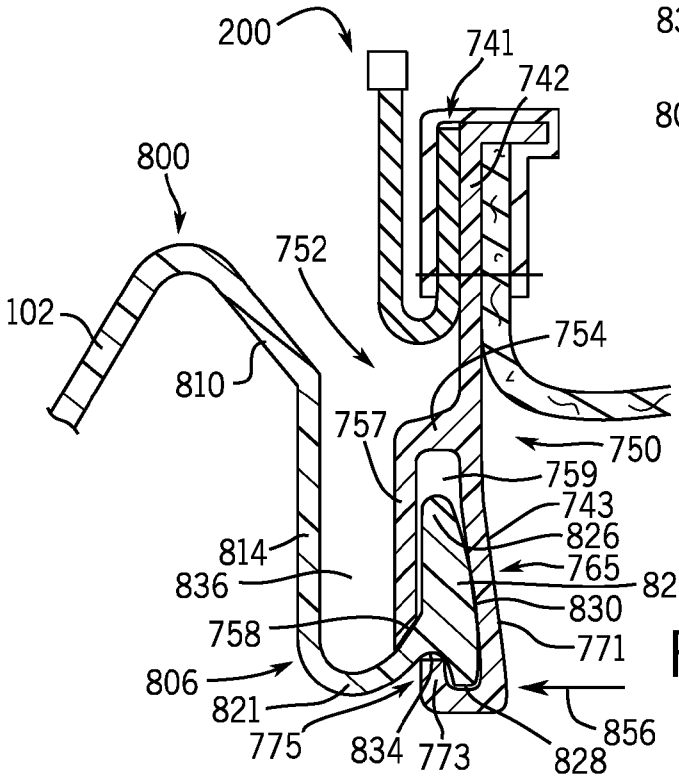
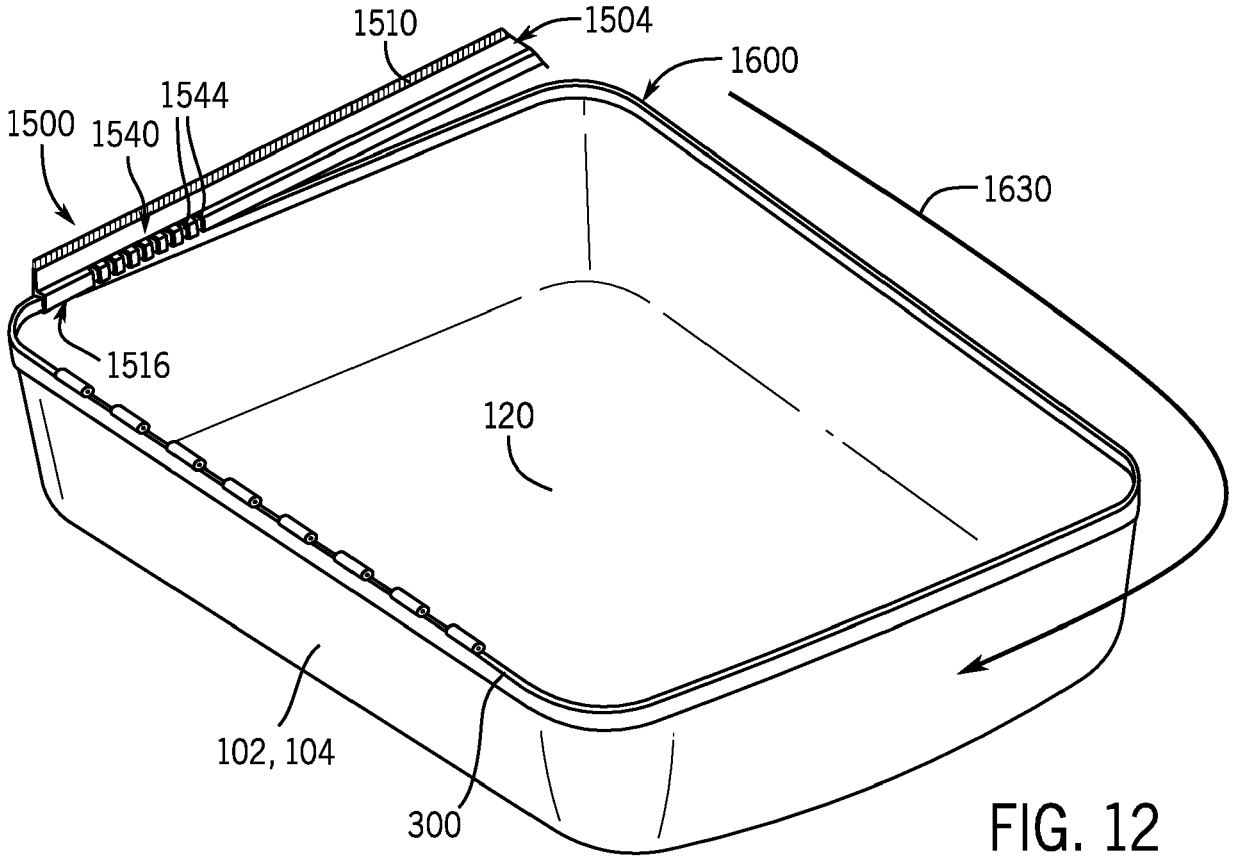


FIG. 11C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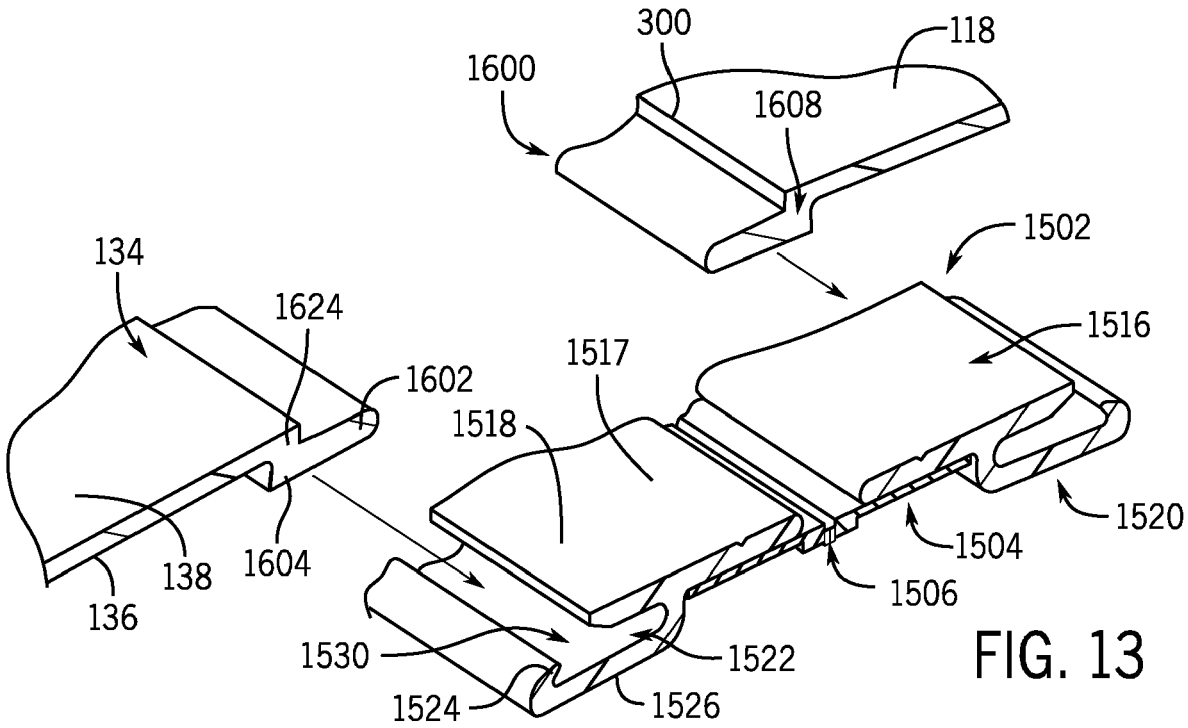
1544
1500
1540
1630
1516
120
102, 104
300

FIG. 12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118
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134
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1524
1526

FIG. 13

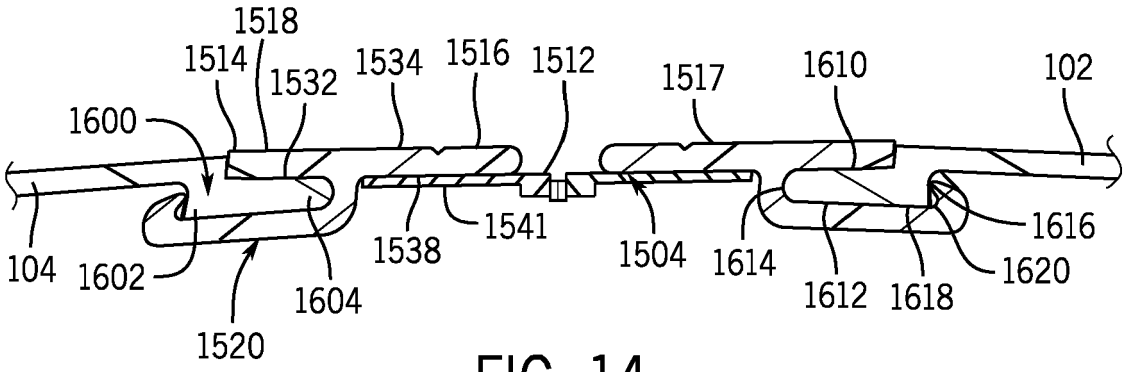

FIG. 14

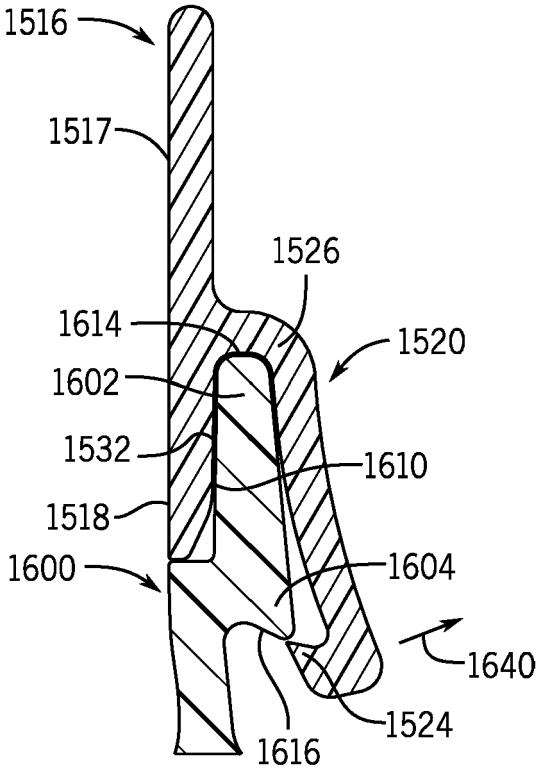

FIG. 15A

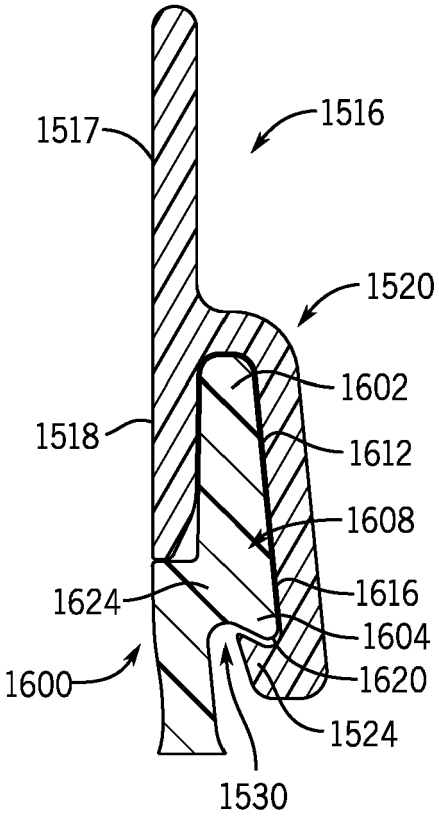

FIG. 15B

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EUROPEAN SEARCH REPORT

Application Number
EP 23 21 2298

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 Y	KR 2018 0002357 U (-) 2 August 2018 (2018-08-02) * paragraph [0022] - paragraph [0032]; figures 1-9 *	1-5, 12-15 6-11	INV. A45C5/03 A45C5/06 A45C5/14 A45C7/00
X	US 2013/292220 A1 (KERLEY JOANNE MARY [GB]) 7 November 2013 (2013-11-07) * paragraph [0024] - paragraph [0065]; figures 1-6 *	1-15	A45C13/02 A45C13/10
Y	DE 20 2019 105370 U1 (TITAN HAMBURG GMBH [DE]) 9 October 2019 (2019-10-09) * paragraph [0043]; figures 1-116 *	6-11	
X	KR 2019 0122353 A (UNITY CO LTD [JP]) 30 October 2019 (2019-10-30) * paragraph [0023] - paragraph [0033]; figures 1-3 *	1-15	
X	WO 2023/122705 A1 (COLEMAN CO [US]) 29 June 2023 (2023-06-29) * paragraph [0006] - paragraph [0033]; figures 1-4 *	1-15	

TECHNICAL FIELDS SEARCHED (IPC)

A45C
A45F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	8 April 2024	Ehrsam, Sabine

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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P : intermediate document

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E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons
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EPO FORM 1503 03.82 (P04C01)

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08-04-2024

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KR 20190122353 A	30-10-2019	NONE	
WO 2023122705 A1	29-06-2023	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82