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(54) **ELECTRICAL ASSEMBLY WITH LOCKING MEMBER FOR RELEASABLY LOCKING A FIRST HOUSING AND A SECOND HOUSING**

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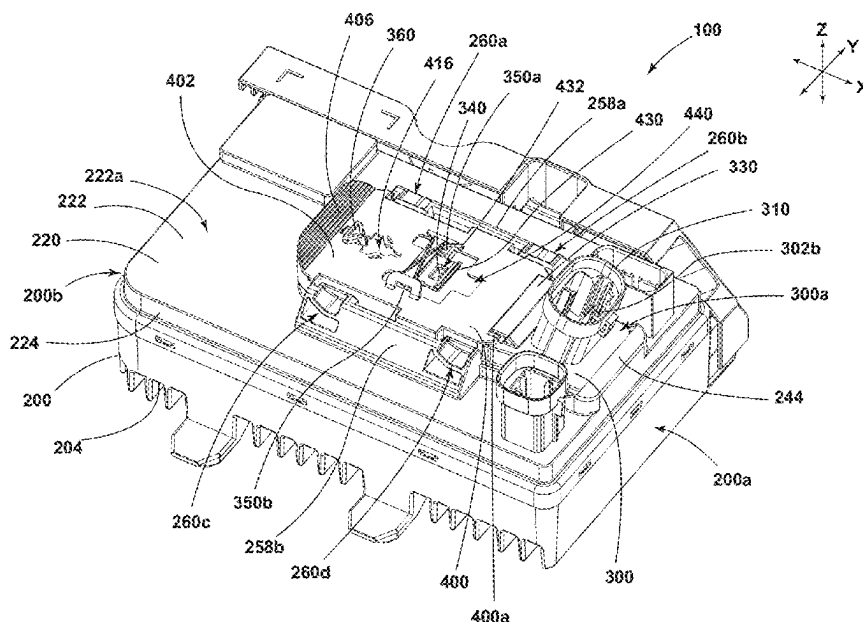
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(57) **ABSTRACT**

An electrical assembly may include a first housing unit, a second housing unit, and a locking member. The first housing unit may include a guide portion. The second housing unit may be releasably connectable to the first housing unit. The locking member may be configured to slidably engage the guide portion. The locking member may be adjustable relative to the first housing unit and the second housing unit to an unlocked position and a locked position. When the locking member is in the unlocked position, the second housing unit may be removable from the first housing unit. When the locking member is in the locked position, the second housing unit may be secured to the first housing unit via the locking member.

19 Claims, 21 Drawing Sheets



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B60R 16/023 (2006.01)
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H01R 13/52 (2006.01)
H01R 13/62 (2006.01)

(52) **U.S. Cl.**

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B60R 16/0238 (2013.01); **H01R 13/516**
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13/5202 (2013.01); **H01R 13/62** (2013.01);
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13/627; **H01R 13/629**; **H01R 13/62905**;
B60R 16/0238

See application file for complete search history.

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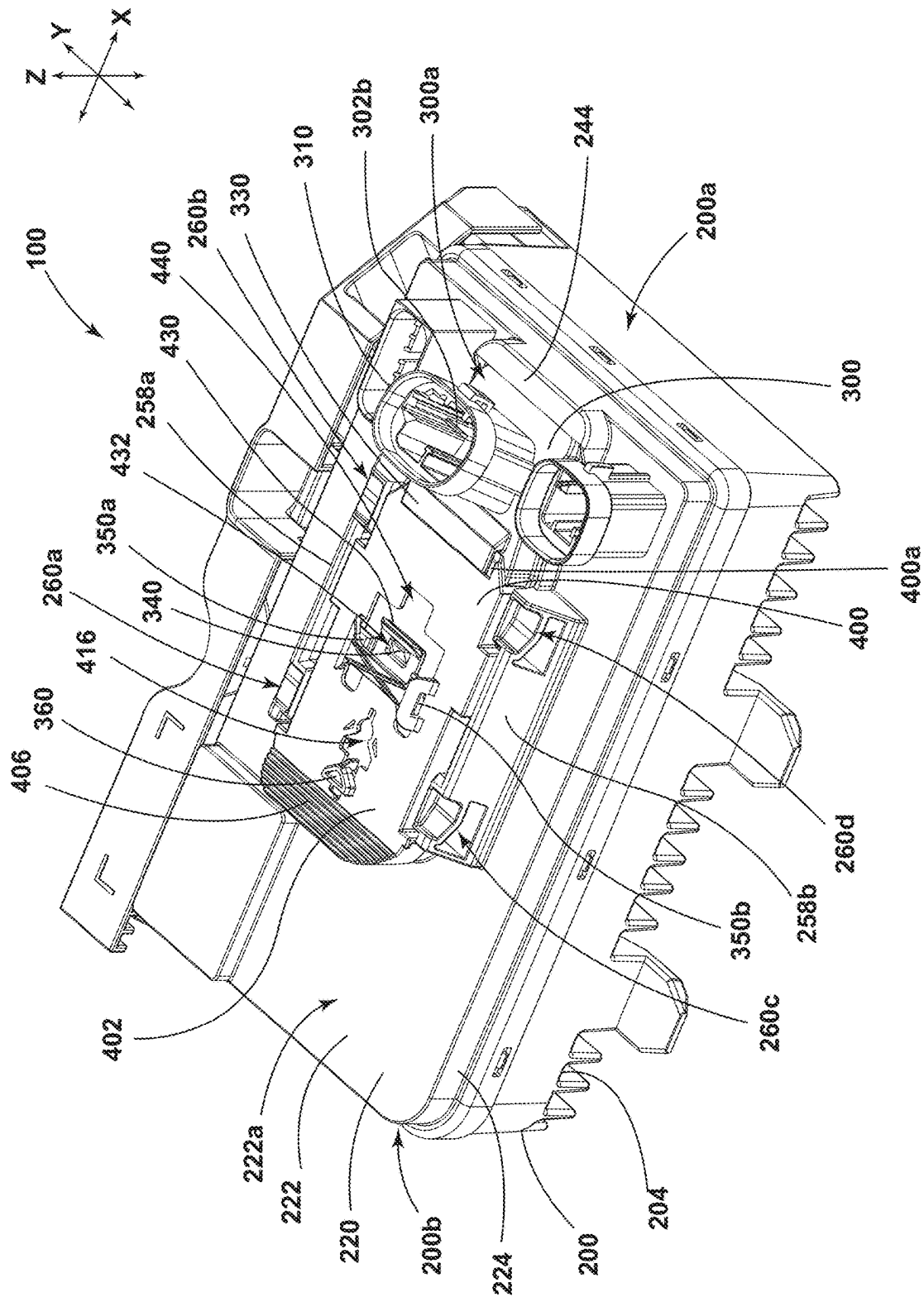


Fig. 1A

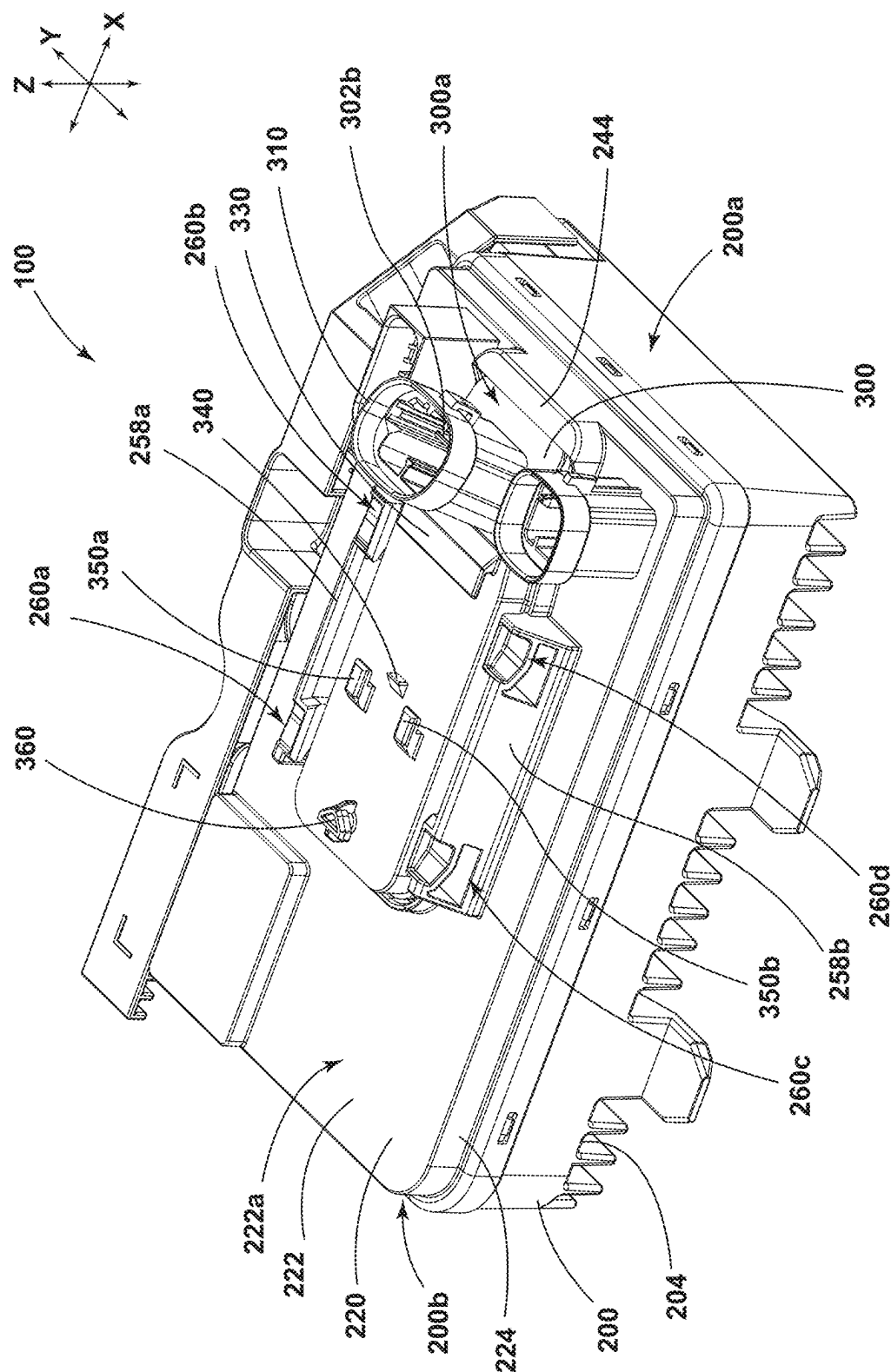


FIG. 1B

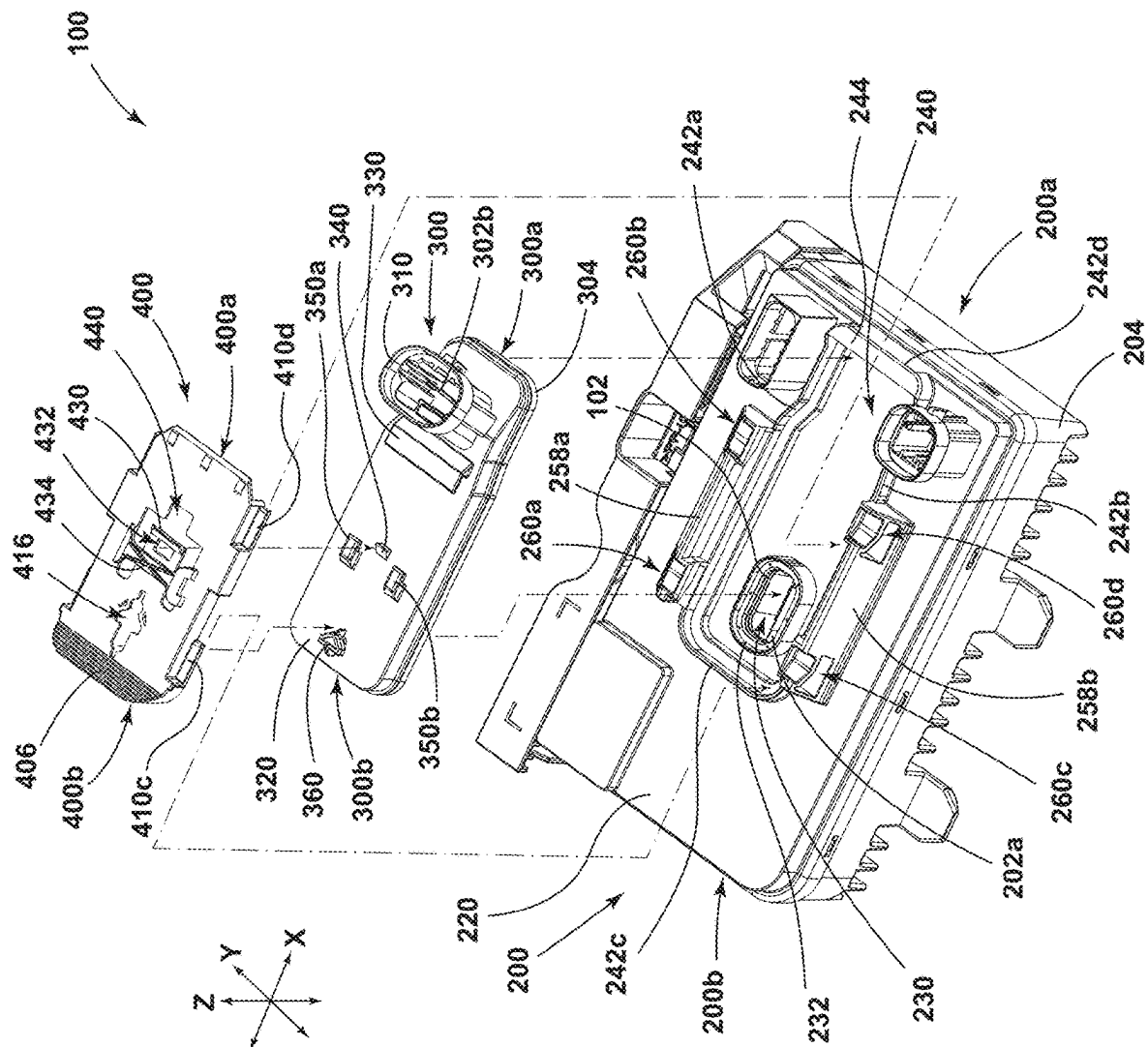


FIG. 2

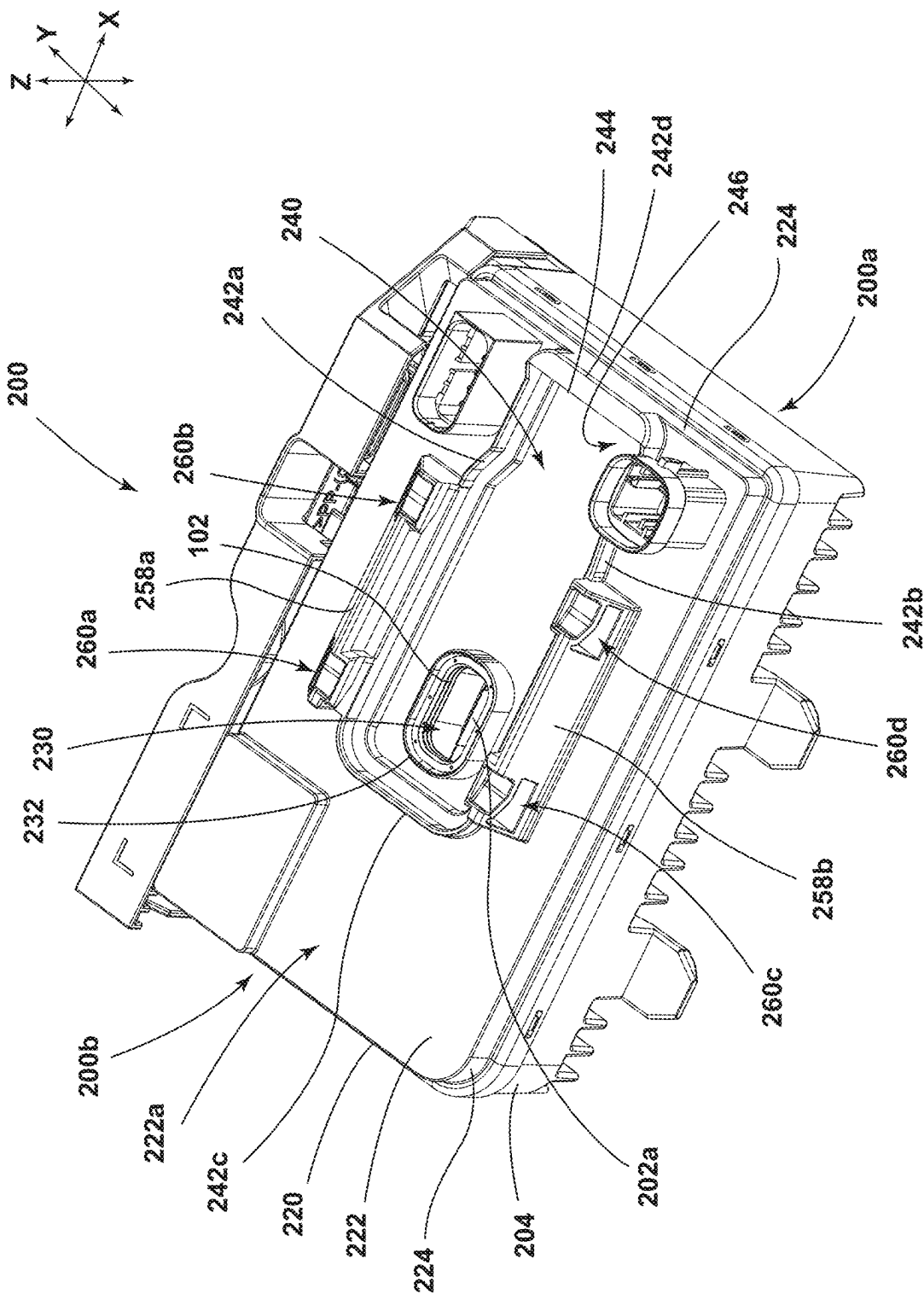
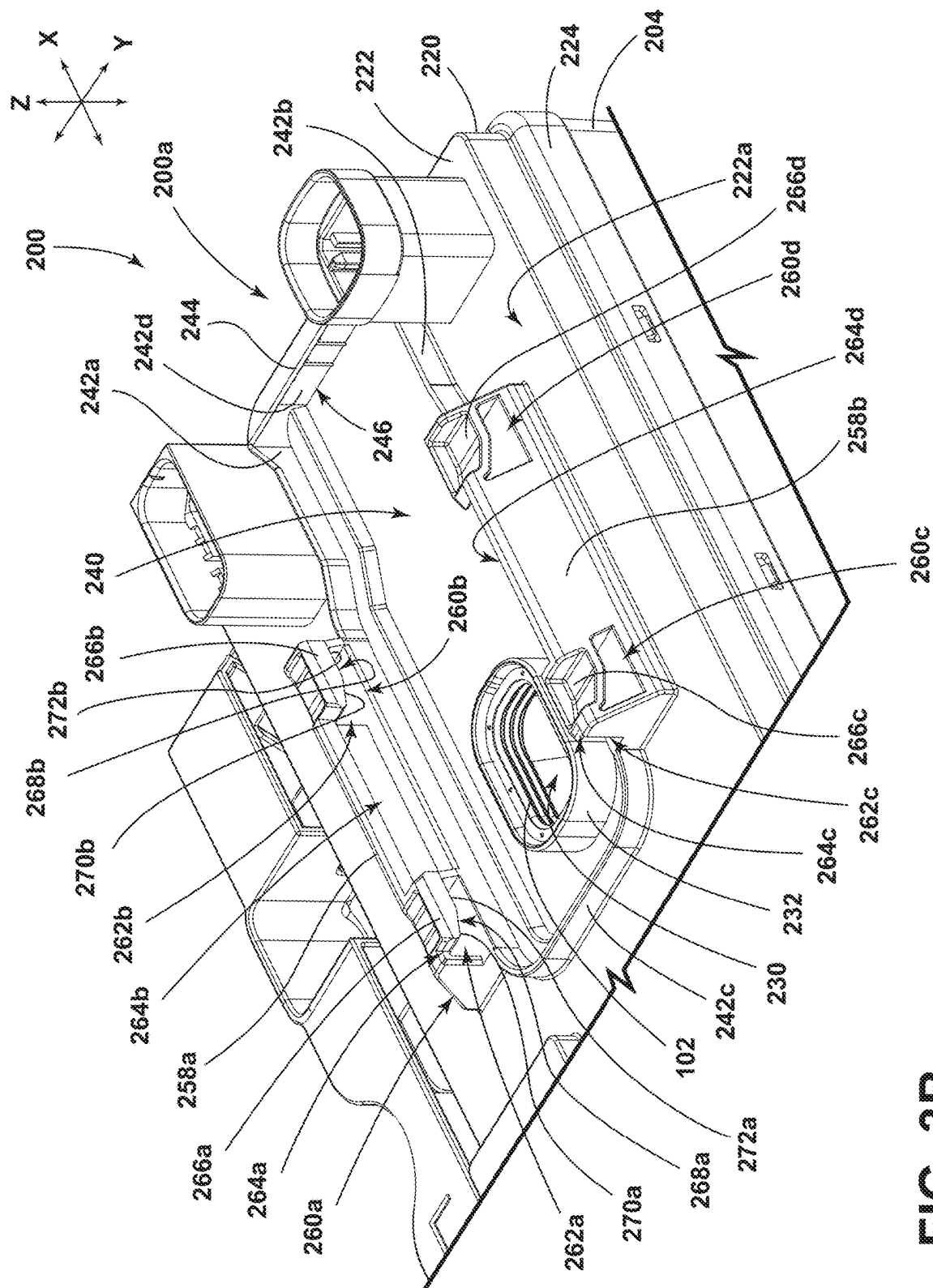
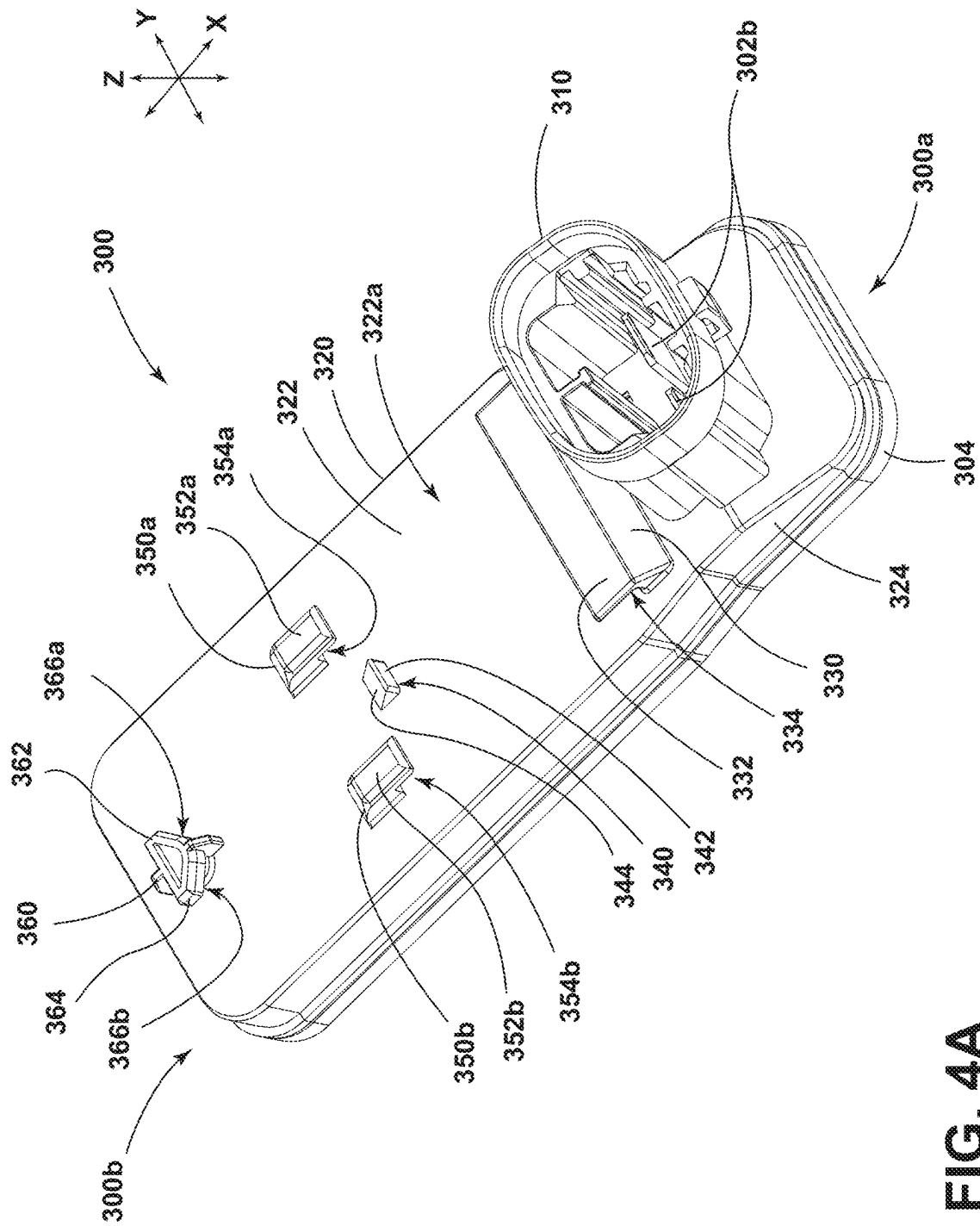


FIG. 3A





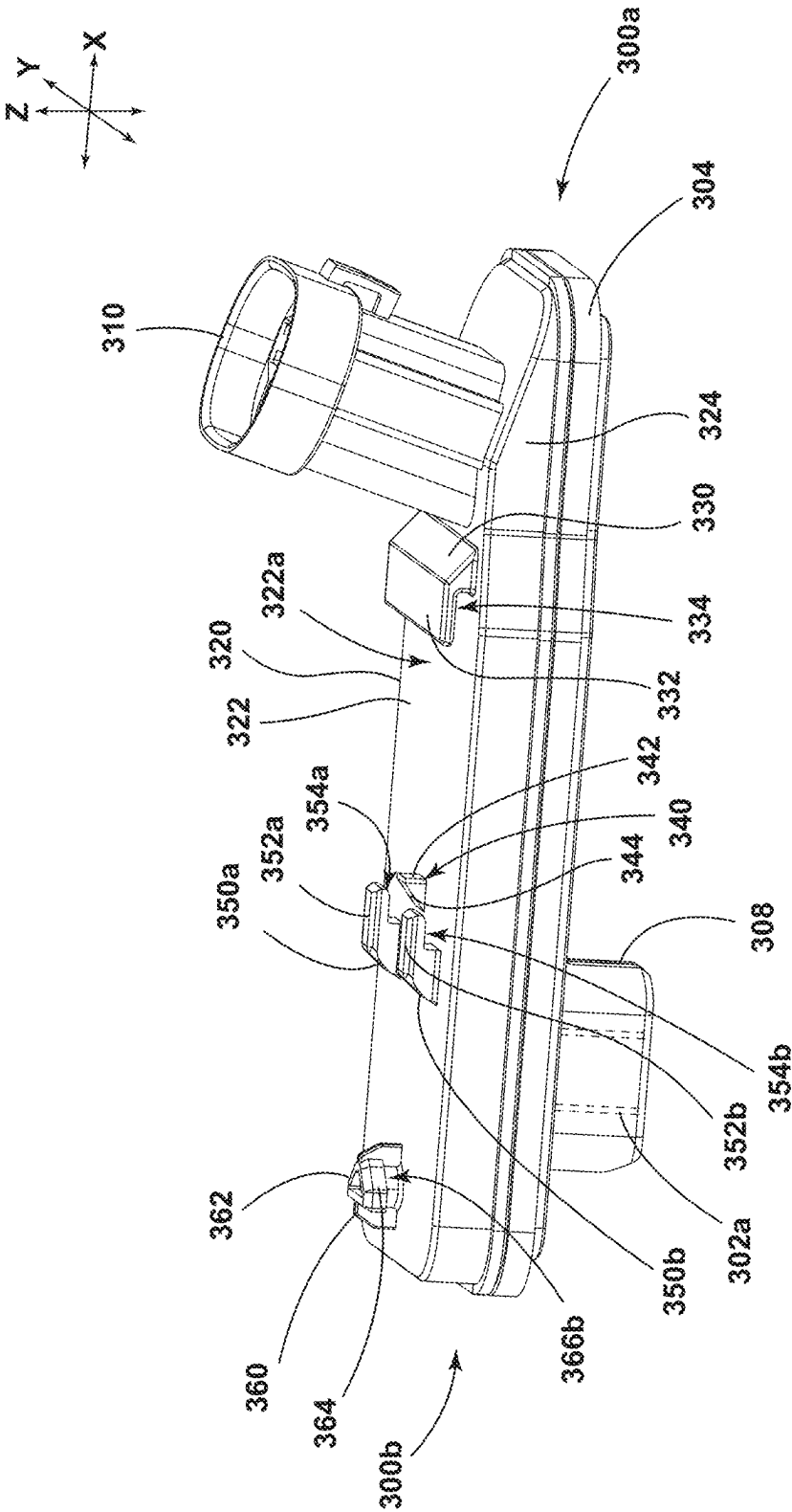


FIG. 4B

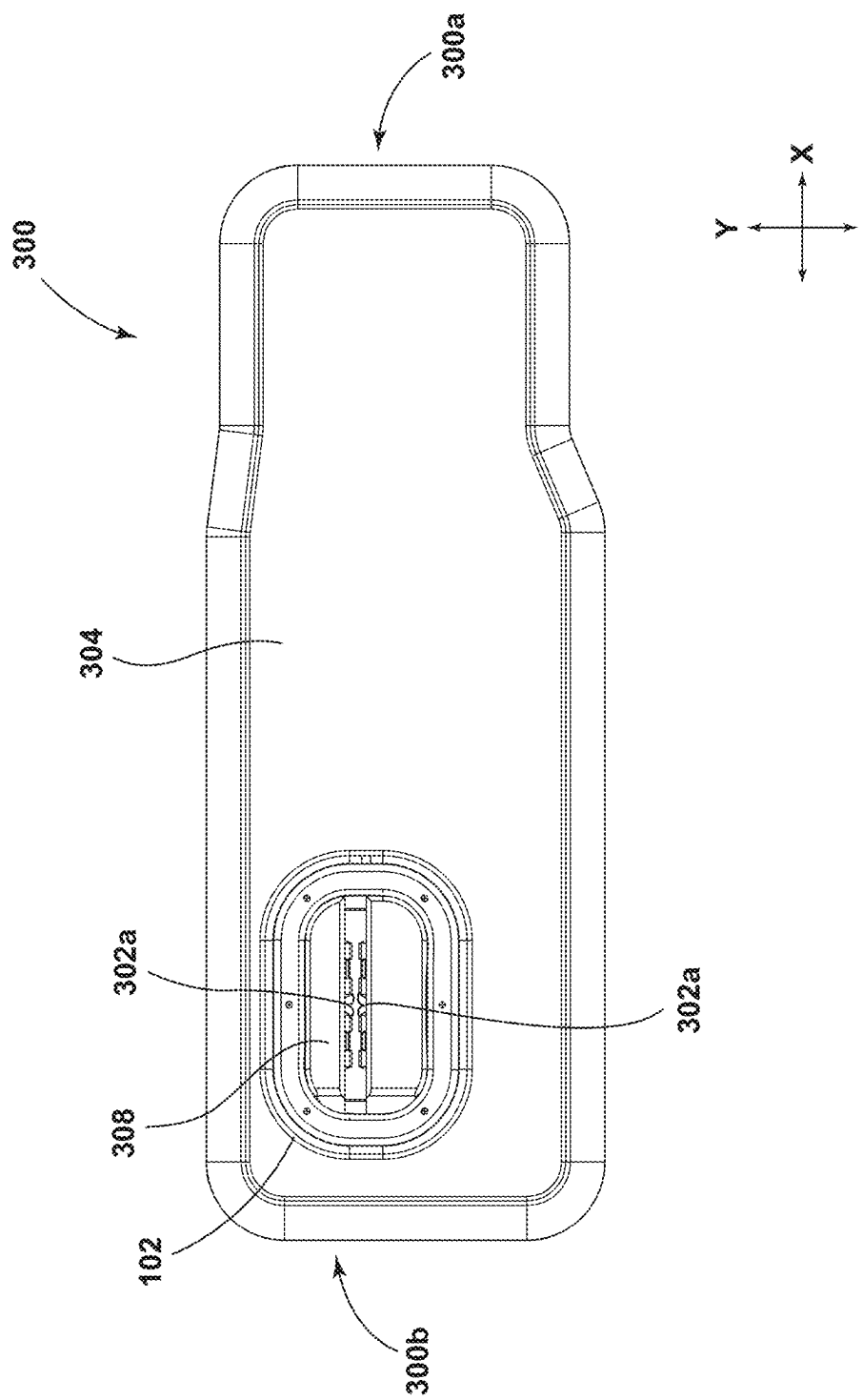


FIG. 4C

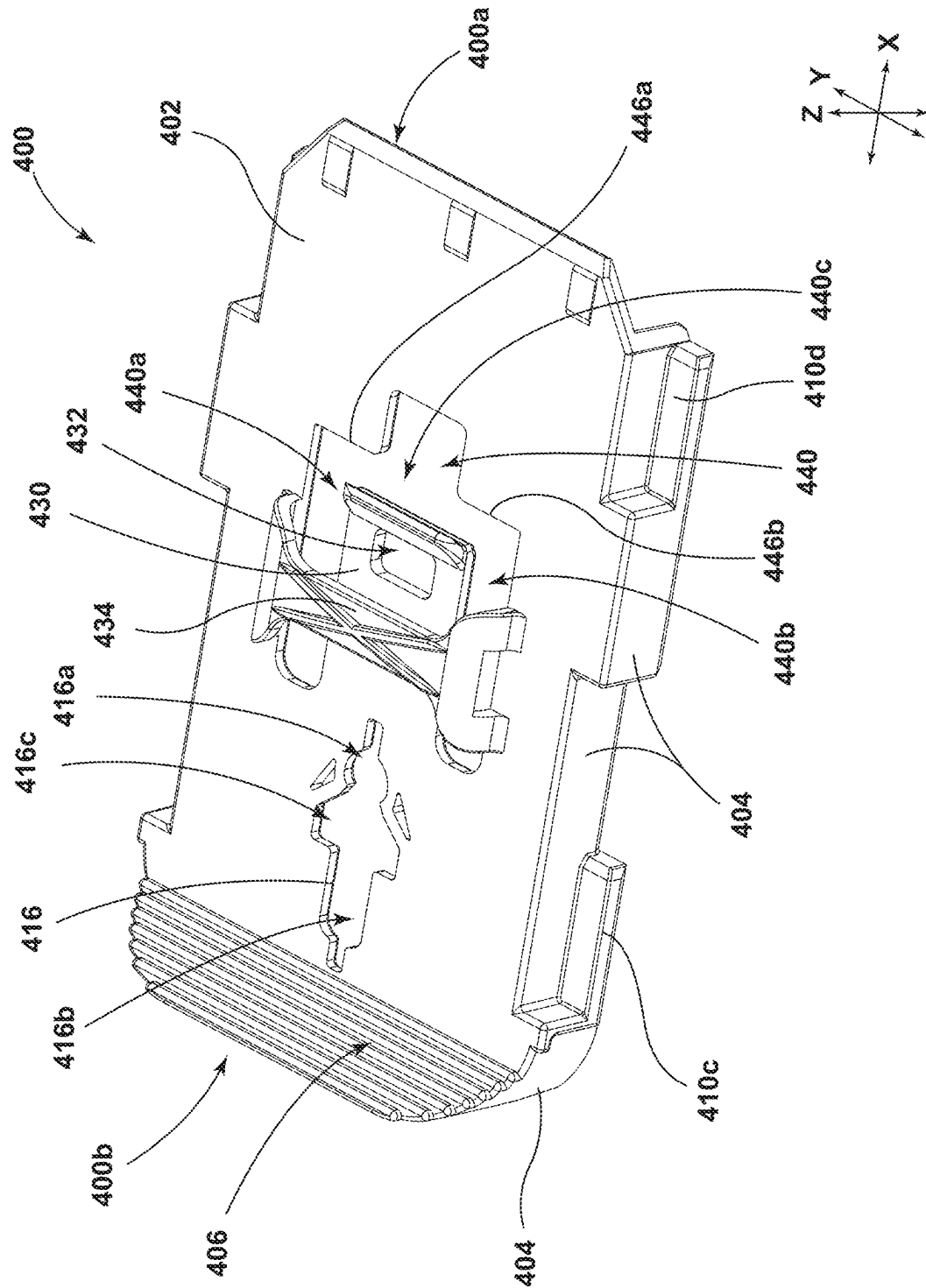


FIG. 5A

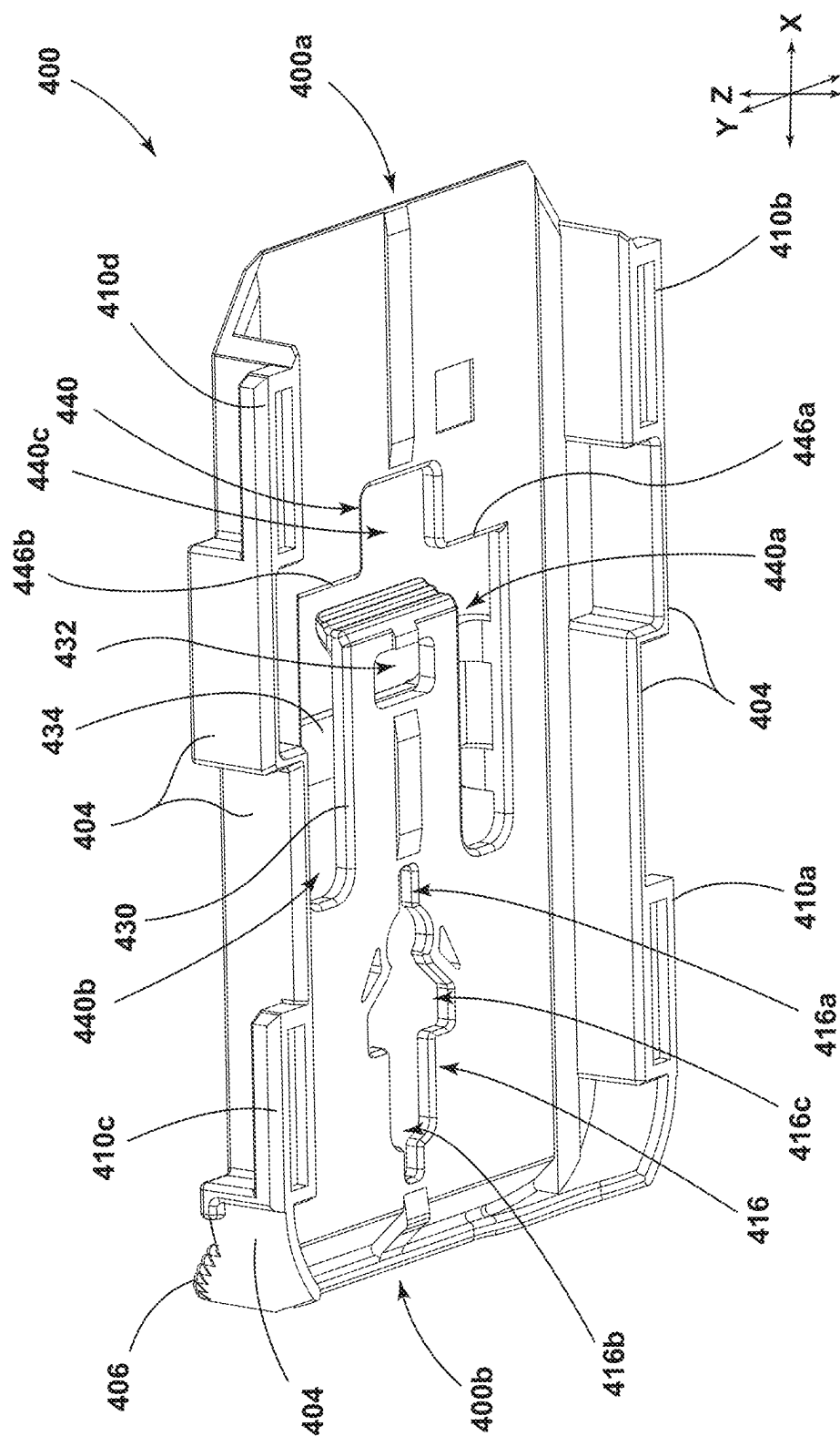
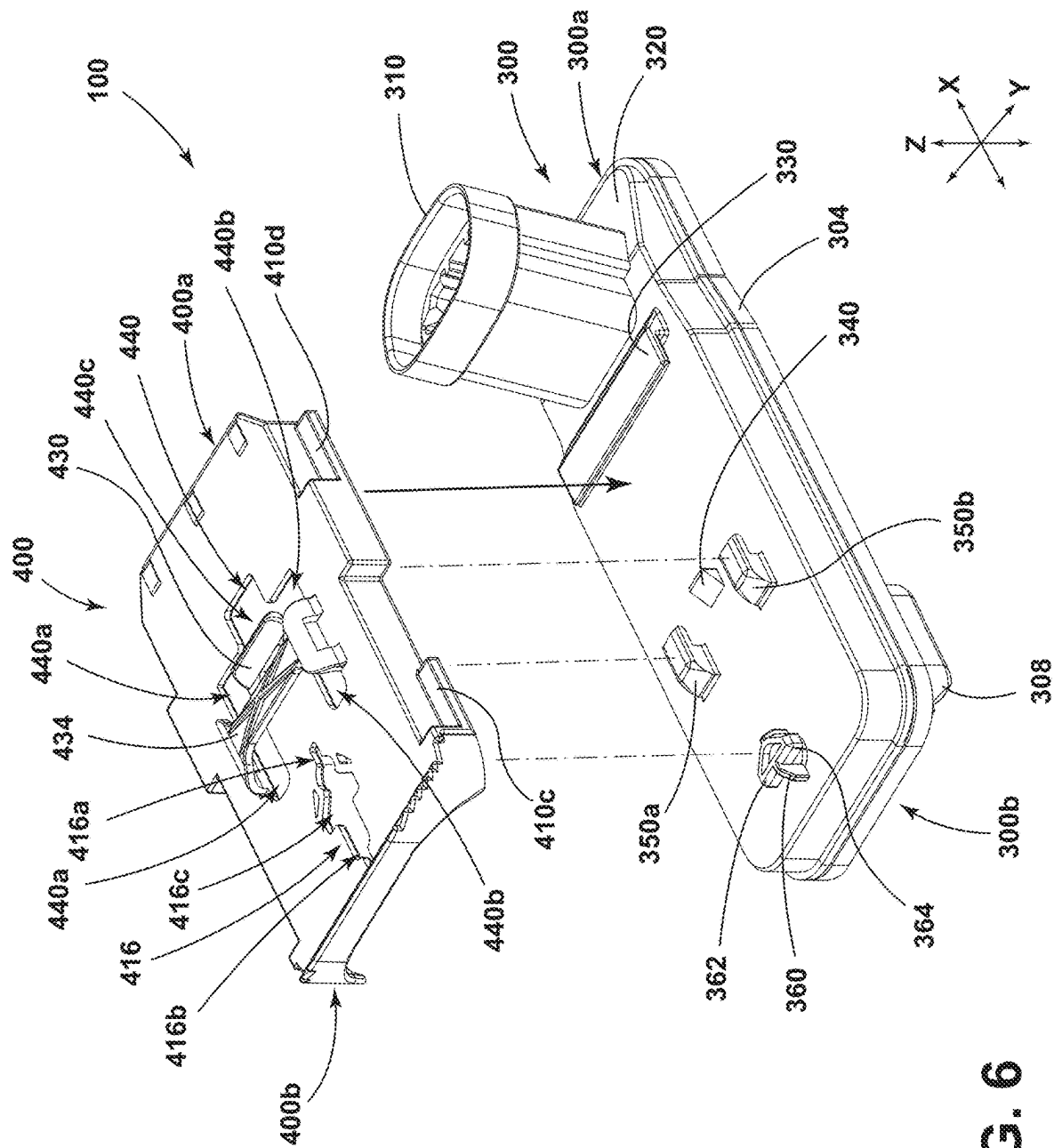
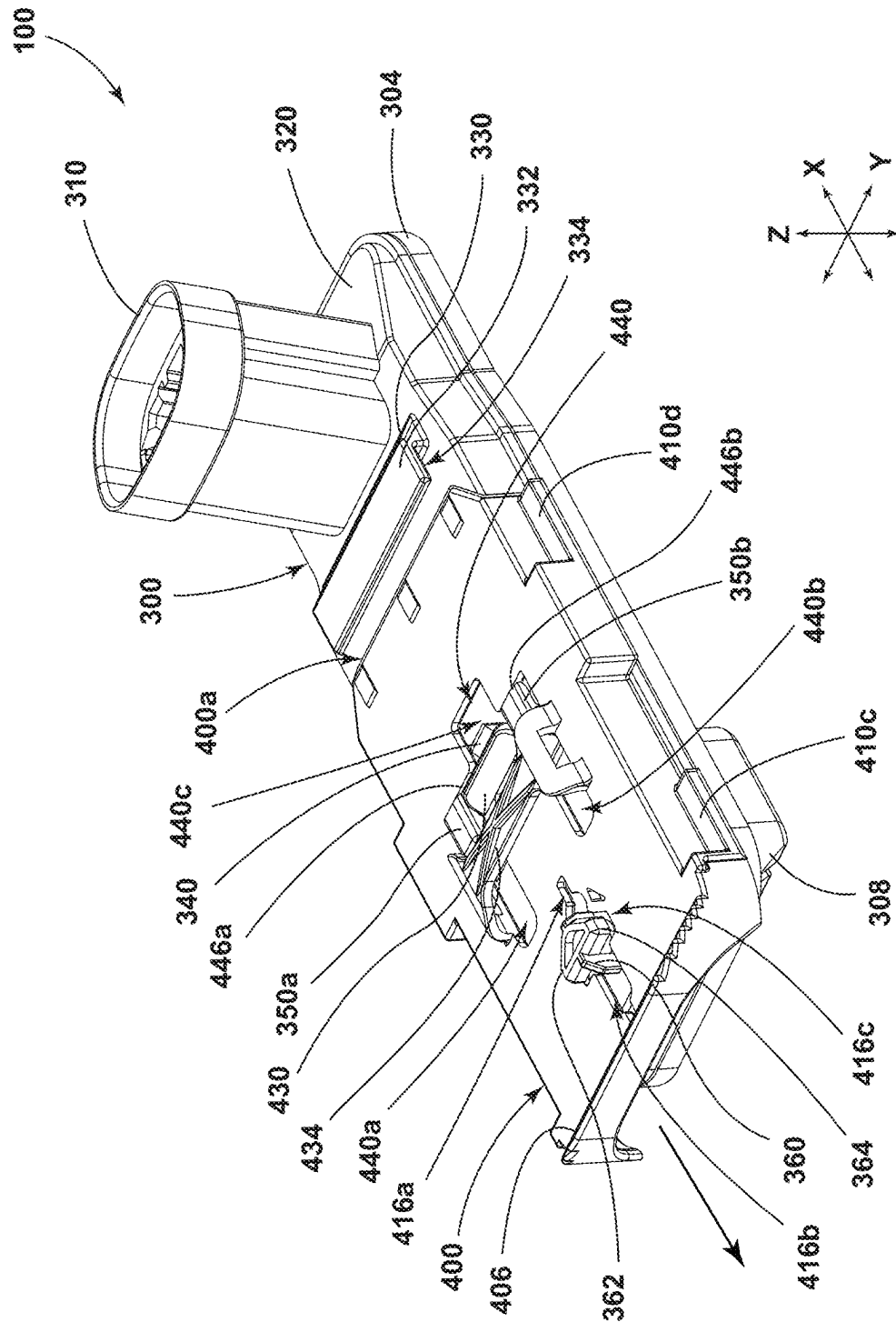


FIG. 5B



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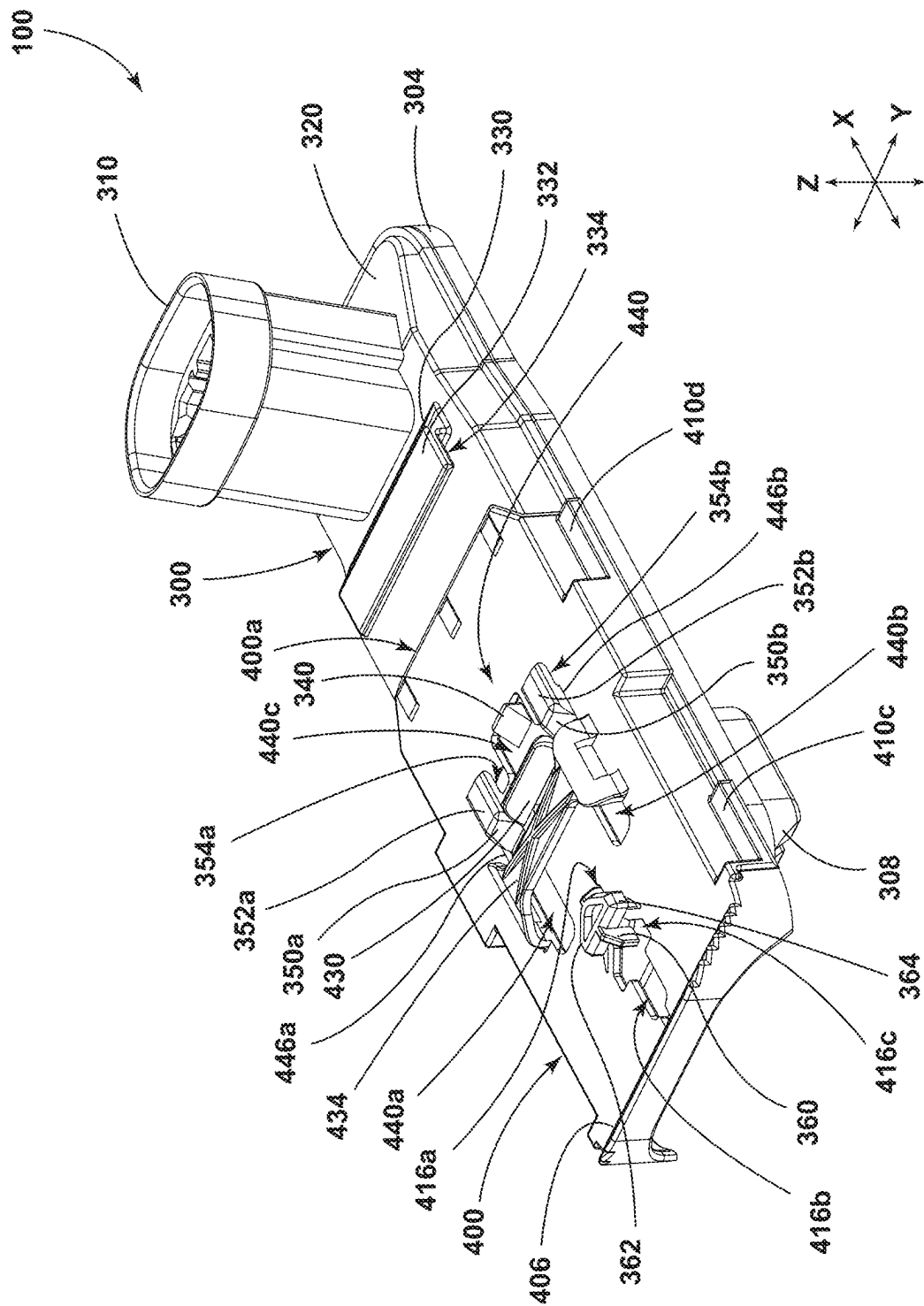


FIG. 8

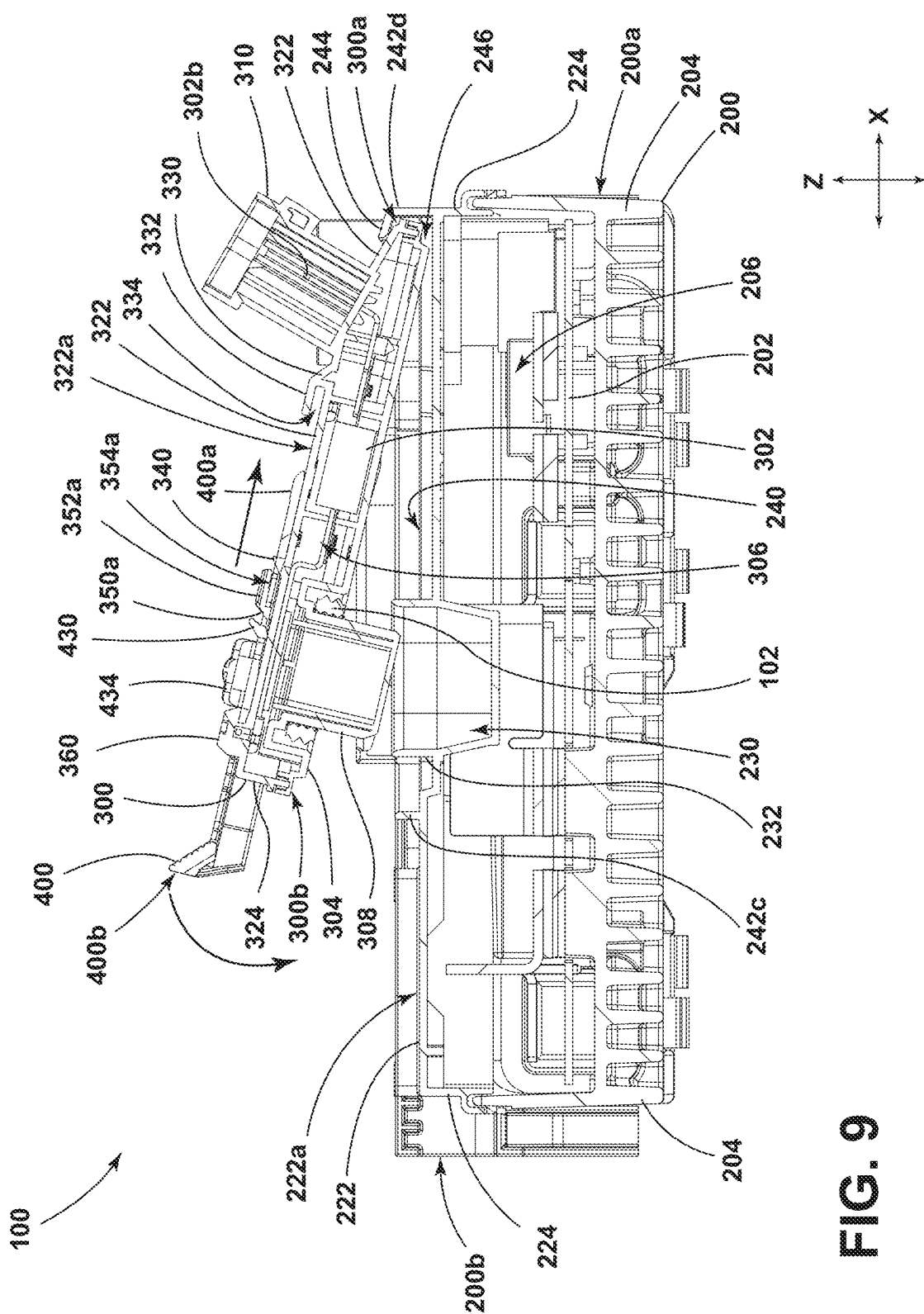


FIG. 9

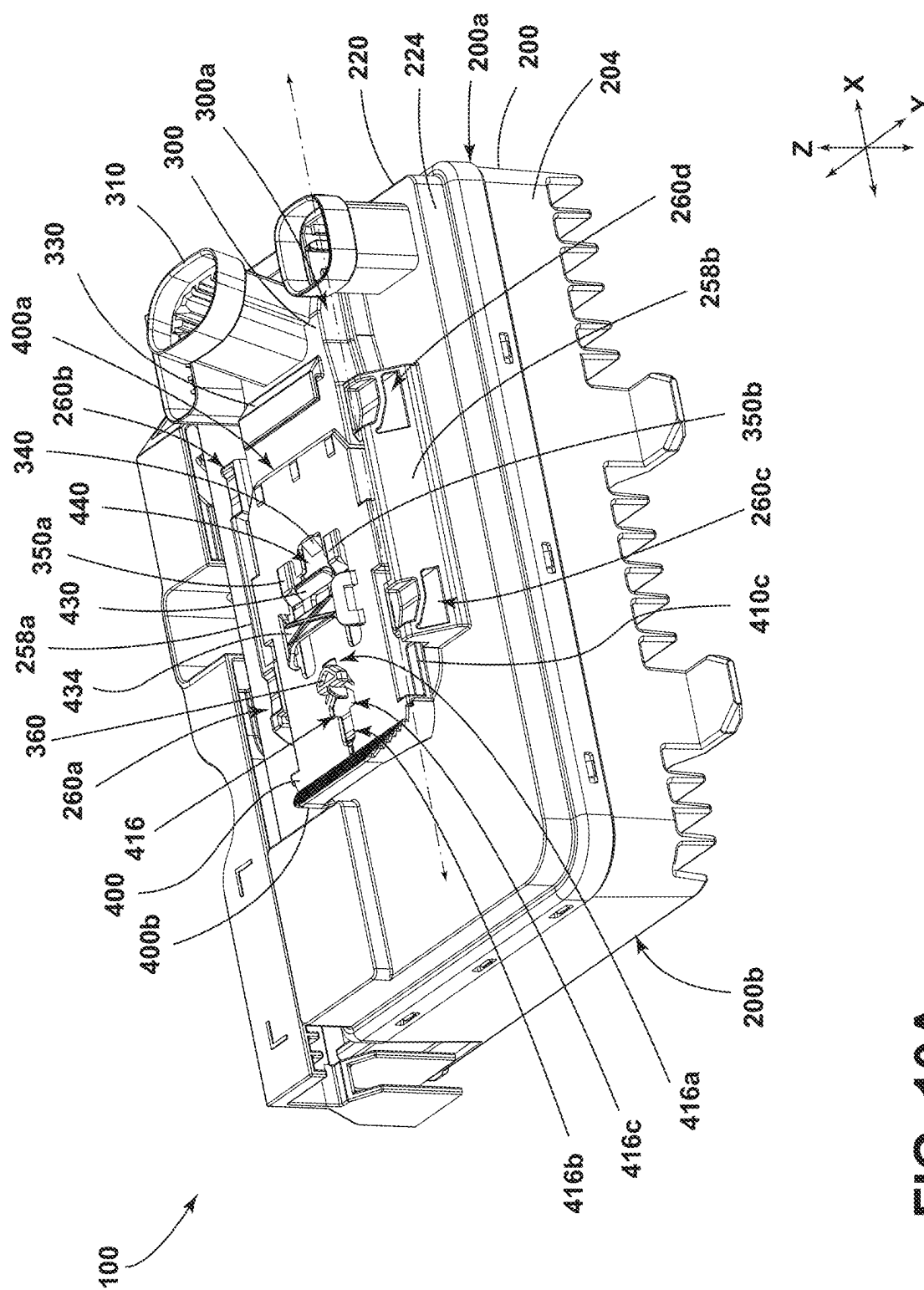


FIG. 10A

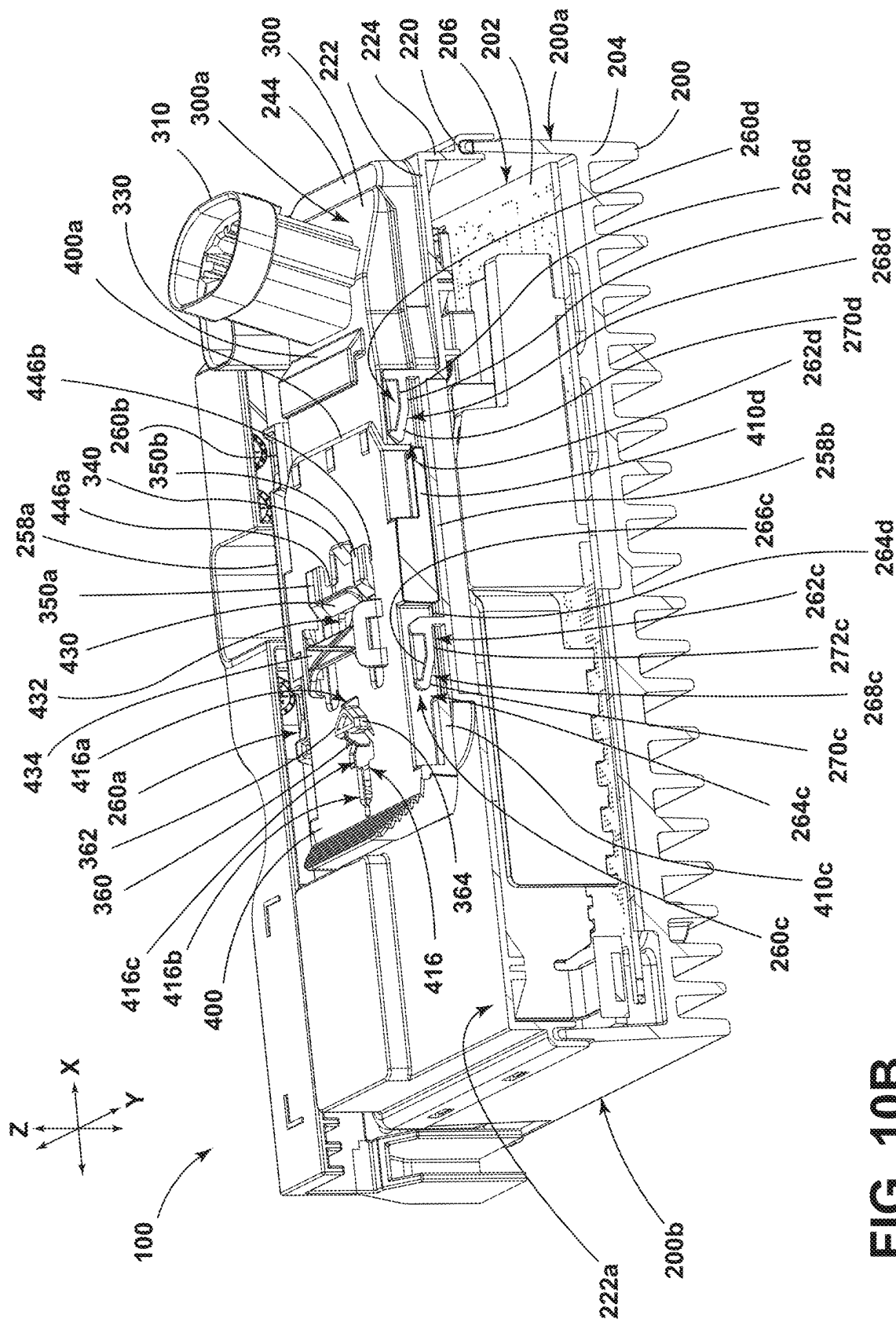


FIG. 10B

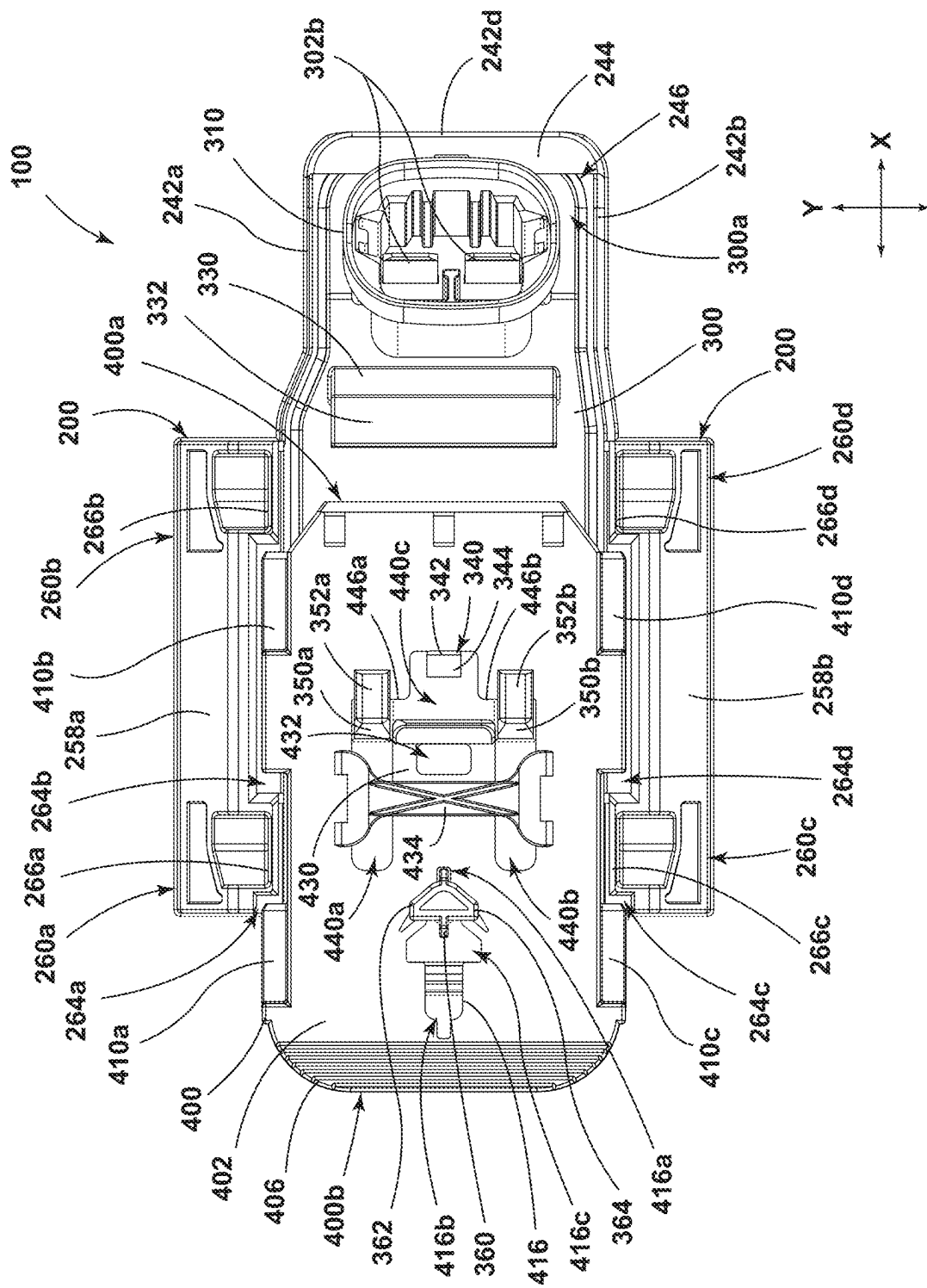
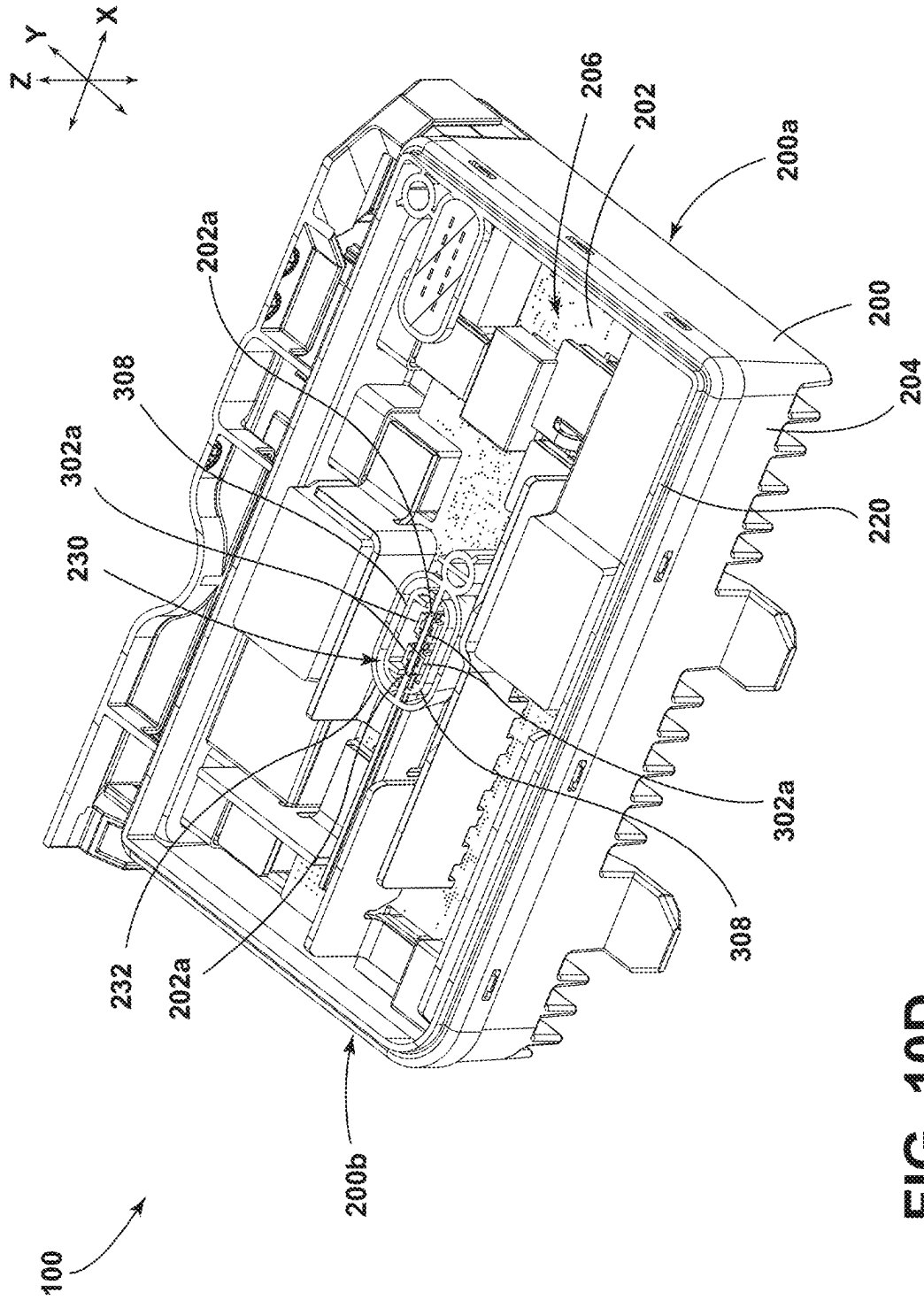


FIG. 10C



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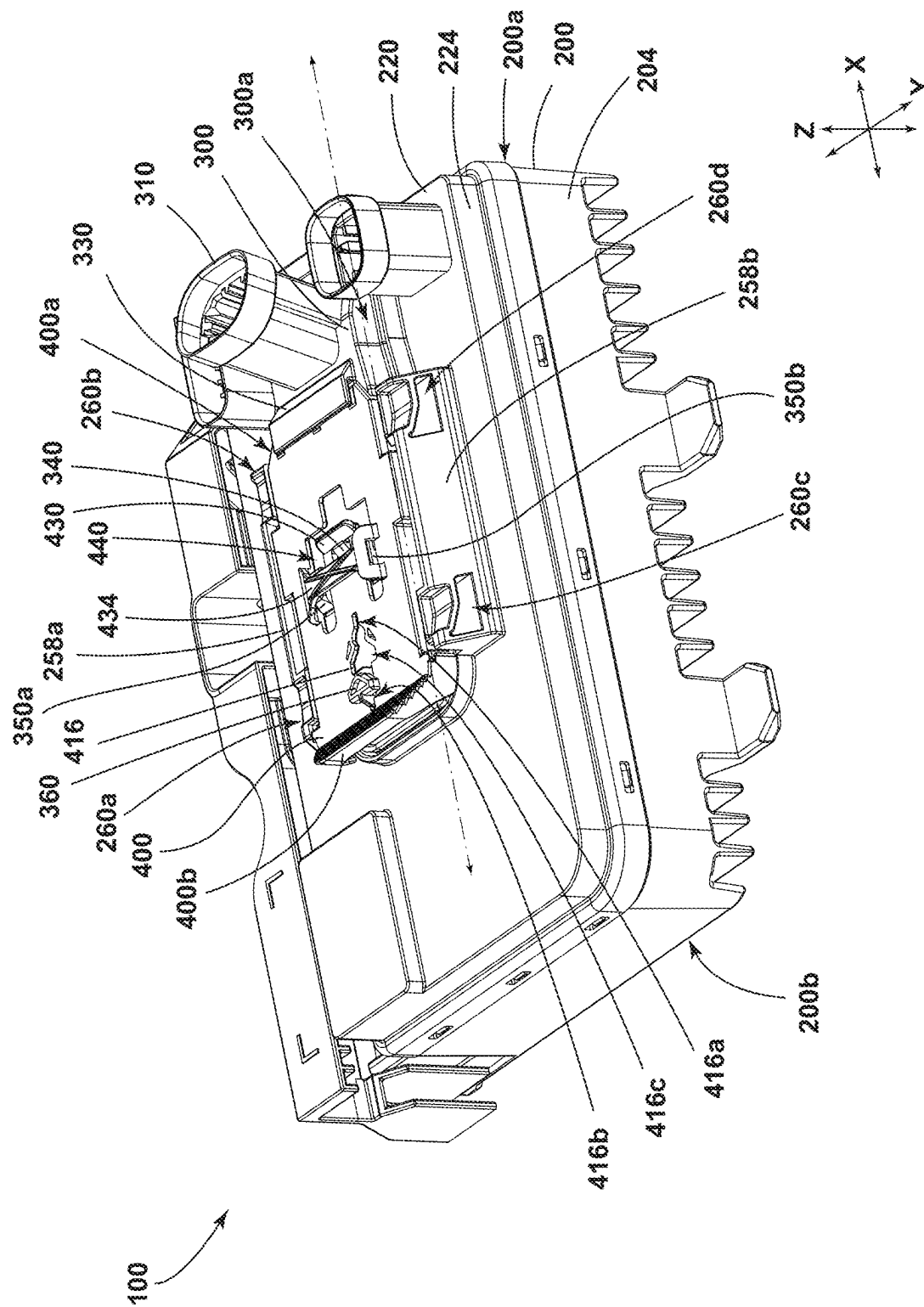
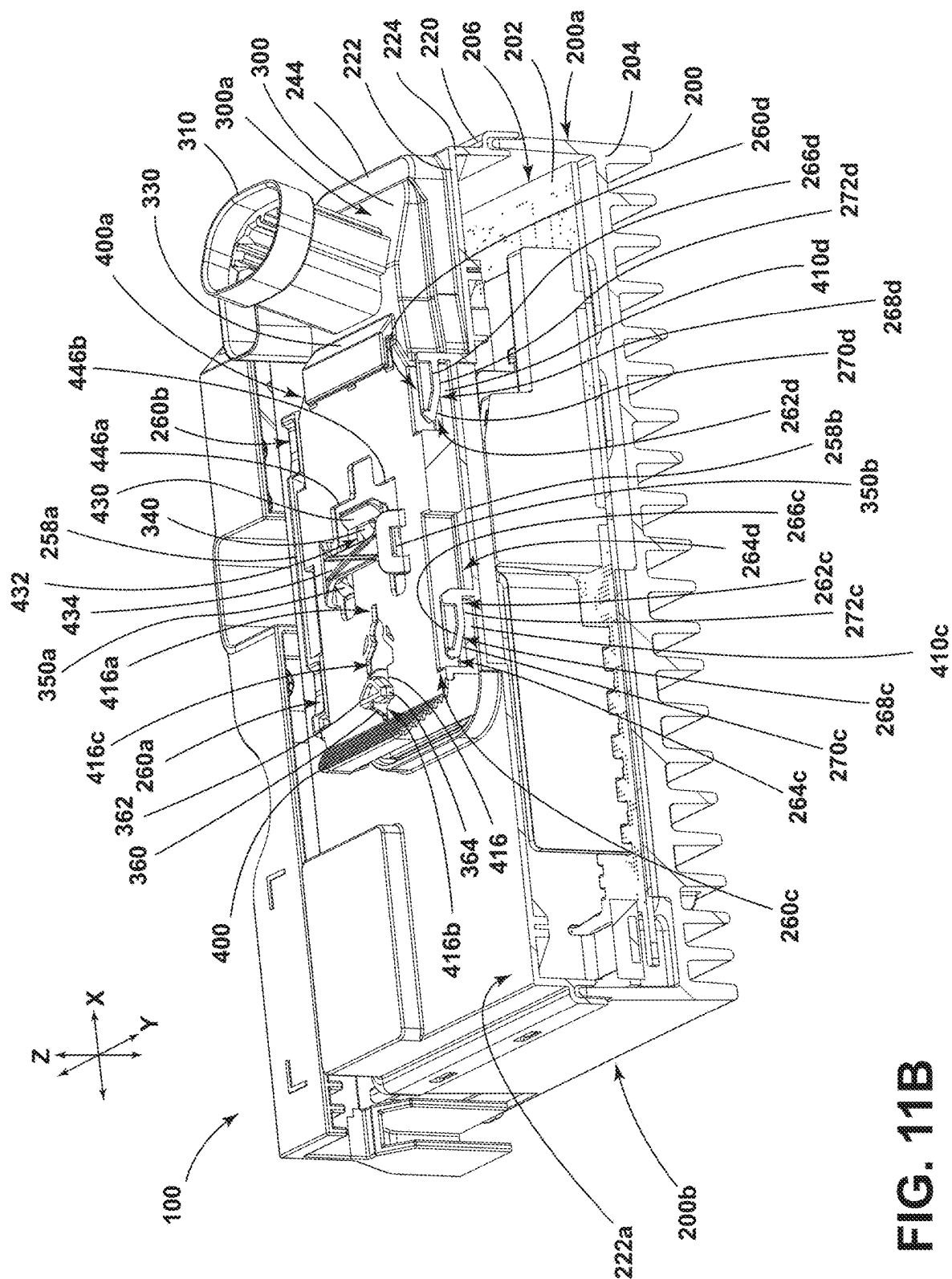


Fig. 1A



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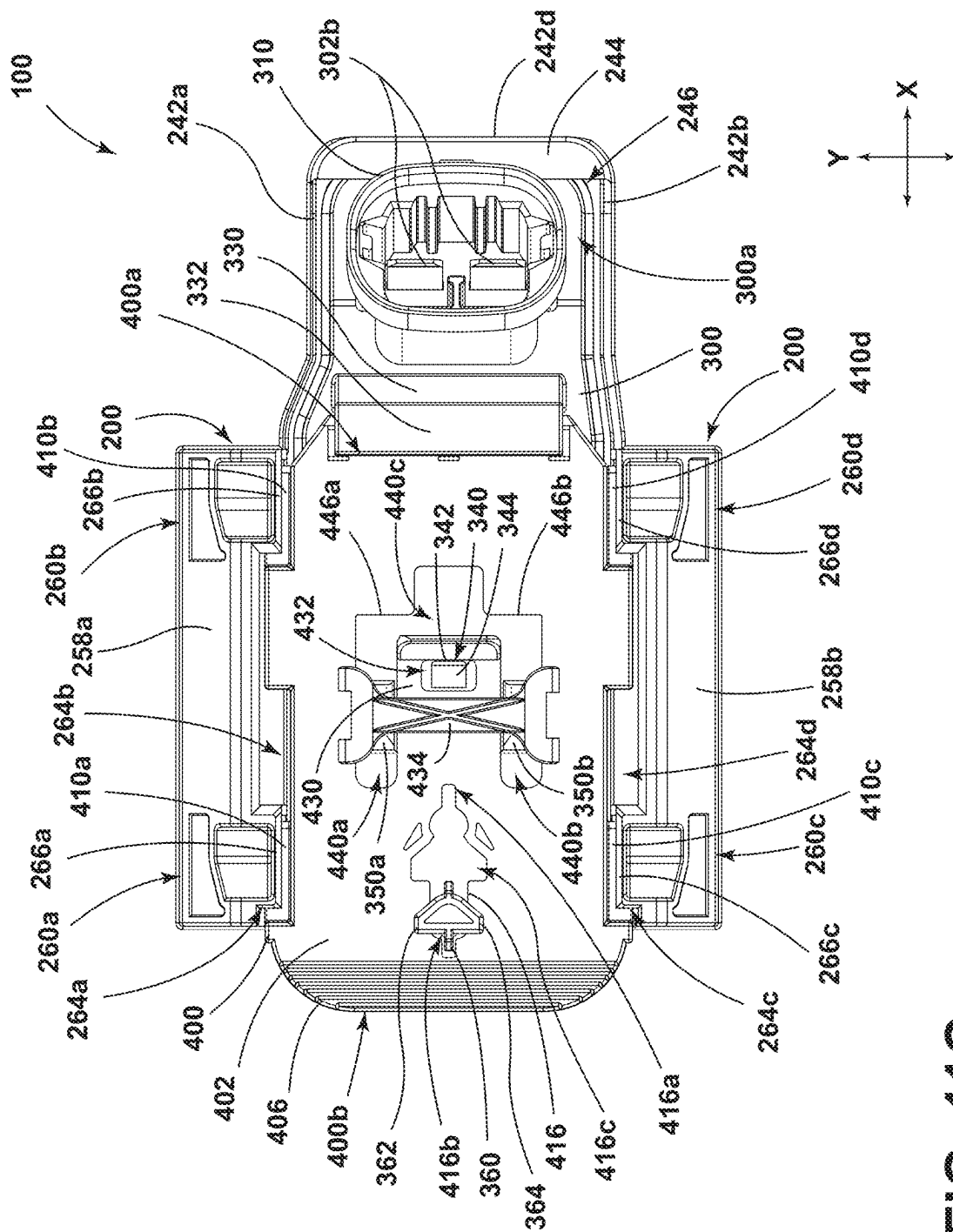


FIG. 11C

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ELECTRICAL ASSEMBLY WITH LOCKING MEMBER FOR RELEASABLY LOCKING A FIRST HOUSING AND A SECOND HOUSING

TECHNICAL FIELD

The present disclosure generally relates to electrical assemblies, including electrical assemblies that may include electrical units, electrical unit housings, and/or electrical connectors that may, for example, be used in connection with vehicles.

BACKGROUND

This background description is set forth below for the purpose of providing context only. Therefore, any aspect of this background description, to the extent that it does not otherwise qualify as prior art, is neither expressly nor impliedly admitted as prior art against the instant disclosure.

Some electrical assemblies may be relatively complex to use and/or to assemble. For example, with some designs, connecting a first housing unit and a second housing unit may be a complex process, may include many different components, and/or may not result in a sufficiently secure connection.

There is a desire for solutions/options that minimize or eliminate one or more challenges or shortcomings of electrical assemblies. The foregoing discussion is intended only to illustrate examples of the present field and is not a disavowal of scope.

SUMMARY

In embodiments, an electrical assembly may include a first housing unit, a second housing unit, and/or a locking member. The first housing unit may include a guide portion. The second housing unit may be releasably connectable to the first housing unit. The locking member may be configured to slidably engage the guide portion. The locking member may be adjustable relative to the first housing unit and the second housing unit to an unlocked position and a locked position. When the locking member is in the unlocked position, the second housing unit may be removable from the first housing unit. When the locking member is in the locked position, the second housing unit may be secured to the first housing unit via the locking member.

In embodiments, an electrical assembly may include a first housing unit, a second housing unit, and a locking member. The first housing unit may include a guide portion having a groove. The second housing unit may be releasably connectable to the first housing unit. The second housing unit may include a connector, a tab, a hook member, and/or a hook connector. The locking member may include a slot configured to receive the connector, a flange configured to slidably engage the groove of the guide portion, and/or a latch configured to engage the tab. The connector may be slidably disposed in the slot. The locking member may be adjustable relative to first housing unit and the second housing unit to an unlocked position and a locked position. When the locking member is in the unlocked position, the second housing unit may be removable from the first housing unit, the connector may be disposed in a first slot portion of the slot, the hook connector may be engaged with the locking member, and/or the locking member may be connected to the second housing unit via the connector and the hook connector. When the locking member is in the locked position, the flange may be engaged with the groove and

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may connect the locking member to the first housing unit, the connector may be disposed in a second slot portion of the slot, the latch may be engaged with the tab and may resist adjustment of the locking member toward the unlocked position, the hook member may be engaged with the locking member, and/or the second housing unit may be secured to the first housing unit via the locking member.

In embodiments, a method of assembling an electrical assembly may include releasably connecting a first housing unit and a second housing unit. The method may include restricting the first housing unit and the second housing unit from disconnecting from one another via adjusting a locking member from an unlocked position to a locked position. Adjusting a locking member from the unlocked position to the locked position may include engaging the locking member with a guide portion of the first housing unit.

The foregoing and other potential aspects, features, details, utilities, and/or advantages of examples/embodiments of the present disclosure will be apparent from reading the following description, and from reviewing the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

While the claims are not limited to a specific illustration, an appreciation of various aspects may be gained through a discussion of various examples. The drawings are not necessarily to scale, and certain features may be exaggerated or hidden to better illustrate and explain an innovative aspect of an example. Further, the exemplary illustrations described herein are not exhaustive or otherwise limiting, and embodiments are not restricted to the precise form and configuration shown in the drawings or disclosed in the following detailed description. Exemplary illustrations are described in detail by referring to the drawings as follows:

FIGS. 1A and 1B are perspective views generally illustrating an embodiment of an electrical assembly according to teachings of the present disclosure.

FIG. 2 is a partially exploded view generally illustrating an embodiment of an electrical assembly according to teachings of the present disclosure.

FIG. 3A is a perspective view generally illustrating an embodiment of a first housing unit according to teachings of the present disclosure.

FIG. 3B is an enlarged partial perspective view generally illustrating portions of an embodiment of a first housing unit according to teachings of the present disclosure.

FIGS. 4A and 4B are perspective views generally illustrating an embodiment of a second housing unit according to teachings of the present disclosure.

FIG. 4C is a bottom view generally illustrating an embodiment of a second housing unit according to teachings of the present disclosure.

FIGS. 5A and 5B are perspective views generally illustrating an embodiment of a locking member according to teachings of the present disclosure.

FIG. 6 is a perspective view generally illustrating an embodiment of a locking member disposed above and vertically aligned with a second housing unit according to teachings of the present disclosure.

FIG. 7 is a perspective view generally illustrating an embodiment of a locking member in a removal position disposed on a second housing unit according to teachings of the present disclosure.

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FIG. 8 is a perspective view generally illustrating an embodiment of a locking member in an unlocked position disposed on a second housing unit according to teachings of the present disclosure.

FIG. 9 is a cross-sectional view generally illustrating an embodiment of a second housing unit partially disposed in a receptacle of a first housing unit according to teachings of the present disclosure.

FIGS. 10A, 10B, 10C, and 10D are a perspective view, a first cross-sectional perspective view, a top view, and a second cross-sectional perspective view, respectively, generally illustrating an embodiment of a first housing unit, a second housing unit, and a locking member in an unlocked position according to teachings of the present disclosure.

FIGS. 11A, 11B, and 11C are a perspective view, a cross-sectional view, and a top view, respectively, generally illustrating an embodiment of a first housing unit, a second housing unit, and a locking member in a locked position according to teachings of the present disclosure.

DETAILED DESCRIPTION

Reference will now be made in detail to embodiments of the present disclosure, examples of which are described herein and illustrated in the accompanying drawings. While the present disclosure will be described in conjunction with embodiments and/or examples, they do not limit the present disclosure to these embodiments and/or examples. On the contrary, the present disclosure covers alternatives, modifications, and equivalents.

With embodiments, such as generally illustrated in FIGS. 1A-2 and 9-11C, an electrical assembly 100 may include a first housing unit 200 (e.g., a power distribution box), a second housing unit 300 (e.g., a fuse box), and/or a locking member 400. An electrical assembly 100 may be configured to receive and/or distribute electrical power to one or more other components (e.g., vehicle components/systems). A first housing unit 200 may be connectable to and/or mountable on a support structure, such as of a vehicle. A second housing unit 300 may be connectable to and/or mountable on a first housing unit 200, which may establish a mechanical connection and/or an electrical connection therebetween. A locking member 400 may be releasably connectable to a first housing unit 200 and/or a second housing unit 300, such as to secure, lock, and/or fix the second housing unit 300 to the first housing unit 200.

With embodiments, such as generally illustrated in FIGS. 1A-3B, a first housing unit 200 may have a generally rectangular shape and/or may be configured to receive and/or retain one or more first electrical components 202, such as circuit boards, relays, fuses, switches, controllers, capacitors, resistors, inductors, diodes, etc. (see, e.g., FIGS. 9, 10B, 10D, and 11B). One or more first electrical components 202 may include one or more first electrical contacts 202a (see, e.g., FIGS. 3A and 10D). A first housing unit 200 may have a first base 204 and a first cover 220. A first cover 220 may be releasably connectable (e.g., via one or more connectors, fasteners, latches, etc.) to a first base 204, such as to close the first base 204 and/or define a first internal space 206 (see, e.g., FIGS. 9, 10B, 10D, and 11B). One or more first electrical components 202 may be disposed in the first internal space 206.

With embodiments, such as generally illustrated in FIGS. 3A and 3B, a first cover 220 may include a first main portion 222 and one or more first wall portions 224. A first main portion 222 may be generally planar and/or have a generally rectangular shape. One or more first wall portions 224 may

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project away from the first main portion 222 generally in a Z-direction (e.g., perpendicularly or obliquely relative to the first main portion 222), and/or may be configured to engage, contact, and/or abut a first base 204. A first main portion 222 may have a first external surface 222a, which may face generally in a Z-direction.

With embodiments, such as generally illustrated in FIGS. 3A and 3B, a first cover 220 and/or a first main portion 222 may include an electrical connector aperture 230 and/or one or more aperture walls 232. An electrical connector aperture 230 may be configured to receive at least a portion of a second housing unit 300 (e.g., a first electrical connector 308 and/or a second electrical contact 302a—see FIG. 4B), such as to facilitate establishing a mechanical connection and/or electrical connection between the first housing unit 200 and the second housing unit 300. An electrical connector aperture 230 may be disposed in a first external surface 222a of a first main portion 222 of a first cover 220 and/or may extend through a first main portion 222 to a first internal space 206 of a first housing unit 200 (see, e.g., FIG. 9). In some examples, an electrical connector aperture 230 may be defined by and/or extend through a portion of a first main portion 222 that defines a receptacle 240. An electrical connector aperture 230 may be at least partially defined by a first main portion 222 of a first cover 220 and/or one or more aperture walls 232. One or more first electrical components 202 disposed in the first housing unit 200, such as one or more first electrical contacts 202a, may be disposed in and/or project into the electrical connector aperture 230 (see, e.g., FIGS. 3A and 10D). When a first electrical connector 308 of a second housing unit 300 is engaged with and/or disposed/received in the electrical connector aperture 230, a first electrical contact 202a of the first housing unit 200 may engage, contact, and/or abut one or more second electrical contacts 302a of the second housing unit 300 (see, e.g., FIG. 10D), which may establish an electrical connection between the first housing unit 200 and/or the second housing unit 300.

With embodiments, such as generally illustrated in FIGS. 3A and 3B, a first cover 220 and/or a first main portion 222 may include a receptacle 240, one or more receptacle walls 242, and/or a flange 244. A receptacle 240 may be configured to receive at least a portion of a second housing unit 300 (e.g., a second base 304 and/or a second cover 320). A receptacle 240 may be at least partially defined by a first external surface 222a of a first main portion 222 and/or one or more receptacle walls 242a-d. In at least some embodiments, a receptacle 240 may be configured as a depression disposed in a first external surface 222a of a first cover 220.

With embodiments, such as generally illustrated in FIGS. 3A and 3B, one or more receptacle walls 242a-d may be configured to engage, contact, and/or abut a second housing unit 300. One or more receptacle walls 242a-d may project away from a first main portion 222 (e.g., a first external surface 222a) generally in a Z-direction (e.g., perpendicularly or obliquely relative to the first main portion 222) and/or extend along the first main portion 222 generally in an X-direction and/or a Y-direction. One or more receptacle walls 242a-d may extend partially or completely around an outer periphery of a receptacle 240 and/or may at least partially define the receptacle 240. One or more receptacle walls 242a-d may be configured as and/or defined by a portion of a first wall portion 224 of the first cover 220. One or more receptacle walls 242a-d may include a first receptacle wall 242a, a second receptacle wall 242b, a third receptacle wall 242c, and/or a fourth receptacle wall 242d. A first receptacle wall 242a and a second receptacle wall

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242b may be disposed opposite one another and/or extend generally in an X-direction. A third receptacle wall **242c** and a fourth receptacle wall **242d** may be disposed opposite one another, may extend generally in a Y-direction, and/or may extend between and/or connect an end of a first receptacle wall **242a** to an end of a second receptacle wall **242b**. A third receptacle wall **242c** may be disposed closer to a second end **200b** of the first housing unit **200** than a fourth receptacle wall **242d**. A fourth receptacle wall **242d** may be disposed closer to a first end **200a** of the first housing unit **200** than a third receptacle wall **242c**.

With embodiments, such as generally illustrated in FIGS. 3A and 3B, a flange **244** may protrude from a fourth receptacle wall **242d** generally toward a third receptacle wall **242c** (e.g., generally in a X-direction). A flange **244** may be spaced apart from the first main portion **222** and/or the first external surface **222a** (e.g., at a free end of the fourth receptacle wall **242d**). A flange **244** may extend longitudinally generally in a Y-direction (e.g., along the free end of the fourth receptacle wall **242d**). A flange **244** may extend between and/or connect a first receptacle wall **242a**, a second receptacle wall **242b**, and/or a fourth receptacle wall **242d**. A flange **244**, a first receptacle wall **242a**, a second receptacle wall **242b**, and/or a fourth receptacle wall **242d** may at least partially define an opening **246**, which may open toward a third receptacle wall **242c** (e.g., generally in an X-direction). An opening **246** may be configured to receive and/or retain at least a portion of a second housing unit **300** (e.g., a first end **300a** of a second housing unit **300**) (see, e.g., FIGS. 9, 10B, and 11B).

With embodiments, such as generally illustrated in FIGS. 3A and 3B, a first cover **220** may include one or more guide portions **258a**, **258b** (e.g., a first guide portion **258a** and/or a second guide portion **258b**), which may be configured to engage, contact, and/or receive at least a portion of a locking member **400**. A guide portion **258a**, **258b** may project away from a first main portion **222** (e.g., a first external surface **222a**) of a first cover **220** generally in a Z-direction (e.g., perpendicularly or obliquely relative to the main portion). A guide portion **258a**, **258b** may be disposed adjacent and/or proximal to a receptacle **240** and/or one or more receptacle walls **242a**, **242b**. A guide portion **258a**, **258b** may additionally and/or alternatively be integrally formed with and/or defined by a portion of one or more receptacle walls **242a**, **242b**. A guide portion **258a**, **258b** may include one or more guide sections **260a-d**, which may be configured to engage a portion of a locking member **400** (e.g., a locking member flange **410a-d**) and/or guide a movement/adjustment of a locking member **400**.

With embodiments, such as generally illustrated in FIGS. 3B, 10B, and 11B, a guide section **260a-d** may be configured to engage a portion of a locking member **400** (e.g., a locking member flange **410a-d**) and/or guide a movement/adjustment of a locking member **400**. A guide section **260a-d** may include a groove **262a-d** configured to receive at least a portion of a locking member **400** (e.g., a locking member flange **410a-d**). A groove **262a-d** may extend generally in an X-direction and/or may protrude into a guide portion **258a**, **258b** (e.g., generally in a Y-direction) such that the groove **262a-d** opens towards a receptacle **240** of the first cover **220**. A guide section **260a-d** may include a notch **264a-d**. A notch **264a-d** may extend through a guide portion **258a**, **258b** generally in a Z-direction to the groove **262a-d** and/or may facilitate moving, adjusting, and/or inserting a portion of a locking member **400** (e.g., a locking member flange **410a-d**) into the groove **262a-d** (e.g., generally in Z-direction). A guide section **260a-d** may include a protrusion **266a-d** that

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may at least partially define a groove **262a-d** and/or a notch **264a-d**. A protrusion **266a-d** may be disposed spaced apart from a first main portion **222** and/or one or more receptacle walls **242a**, **242b**. A protrusion **266a-d** may include a guide surface **268a-d**, which may at least partially define a groove **262a-d** and/or may face generally toward a first cover **220** and/or a receptacle wall **242a**, **242b** (e.g., generally in a Z-direction). A guide surface **268a-d** may include a first surface portion **270a-d** (e.g., a sloped portion) and/or a second surface portion **272a-d** (e.g., a flat portion). A first surface portion **270a-d** may extend from a notch **264a-d** to the second surface portion **272a-d**. A first surface portion **270a-d** may be sloped and/or angled toward a first housing unit **200** (e.g., a first internal space **206**). In some examples, a height of the groove **262a-d** (e.g., generally in a Z-direction) may decrease as the first surface portion **270a-d** approaches the second surface portion **272a-d**, such as generally in an X-direction. A first surface portion **270a-d** may be configured to guide, move, adjust, etc. a locking member **400** toward a first housing unit **200** (e.g., generally in a Z-direction) when adjusting a locking member **400** toward a locked position, which may adjust and/or press the second housing unit **300** toward/against a first housing unit **200**, which may provide a tight mechanical connection between the first housing unit **200** and the second housing unit **300**.

With embodiments, such as generally illustrated in FIG. 3B, a first guide portion **258a** may be disposed adjacent to, connected to, and/or formed by a portion of a first receptacle wall **242a**. A first guide portion **258a** may include a first guide section **260a** and/or a second guide section **260b**. A first guide section **260a** may be disposed adjacent and/or proximate to a fourth receptacle wall **242d**. A first guide section **260a** may be configured to engage a first locking member flange **410a**. A first guide section **260a** may include a first groove **262a**, a first notch **264a**, a first protrusion **266a**, and/or a first guide surface **268a** having a first surface portion **270a** and/or a second surface portion **272a**. A second guide section **260b** may be disposed adjacent and/or proximate to a third receptacle wall **242c**. A second guide section **260b** may be configured to engage a second locking member flange **410b**. A second guide section **260b** may include a second groove **262b**, a second notch **264b**, a second protrusion **266b**, and/or a second guide surface **268b** having a first surface portion **270b** and/or a second surface portion **272b**.

With embodiments, such as generally illustrated in FIGS. 10B and 11B, a second guide portion **258b** may be disposed adjacent to, connected to, and/or formed by a portion of a second receptacle wall **242b**. A second guide portion **258b** may include a third guide section **260c** and/or a fourth guide section **260d**. A third guide section **260c** may be disposed adjacent and/or proximate to a fourth receptacle wall **242d**. A third guide section **260c** may be configured to engage a third locking member flange **410c**. A third guide section **260c** may include a third groove **262c**, a third notch **264c**, a third protrusion **266c**, and/or a third guide surface **268c** having a first surface portion **270c** and/or a second surface portion **272c**. A fourth guide section **260d** may be disposed adjacent and/or proximate to a third receptacle wall **242c**. A fourth guide section **260d** may be configured to engage a fourth locking member flange **410d**. A fourth guide section **260d** may include a fourth groove **262d**, a fourth notch **264d**, a fourth protrusion **266d**, and/or a fourth guide surface **268d** having a first surface portion **270d** and/or a second surface portion **272d**.

With embodiments, one or more guide portions **258a**, **258b** and/or one or more guide sections **260a-d** may not

project from a first main portion **222** generally upward in a Z-direction and/or may not be easily visible when the first housing unit **200** and the second housing unit **300** are assembled. For example, a guide portion **258a**, **258b** and/or one or more portions thereof may be defined by and/or configured as a portion of a first main portion **222** of a first cover **220**. A notch **264a-d** of the guide portion **258a**, **258b** may be disposed (e.g., directly) in a first external surface **222a** of the first main portion **222** (e.g., adjacent to a receptacle **240**) and/or a protrusion **266a-d** of the guide portion **258a**, **258b** may be defined by and/or configured as a portion of a first main portion **222** (e.g., a portion of a first external surface **222a** may define and/or form an external surface of a protrusion **266a-d**). Additionally and/or alternatively, a guide portion **258a**, **258b** and/or one or more portions thereof may be disposed substantially within a receptacle **240**, may be disposed in and/or defined by one or more surfaces that define the receptacle **240**, and/or may be defined by and/or configured as a portion of a receptacle wall **242a-d**. In such examples, at least a portion of a locking member **400** (e.g., one or more locking member wall portions **404** and/or one or more locking member flanges **410a-d**) may be insertable into a receptacle **240**, such as to engage the one or more guide portions **258a**, **258b**.

With embodiments, such as generally illustrated in FIGS. **1A-2** and **4A-4C**, a second housing unit **300** may have a generally rectangular shape and/or may be configured to receive and/or retain one or more second electrical components **302**, such as circuit boards, relays, fuses, switches, controllers, capacitors, resistors, inductors, diodes, etc. (see, e.g., FIG. **9**). A second electrical component **302** may include one or more second electrical contacts **302a** (see, e.g., FIGS. **4C** and **10D**) and/or one or more third electrical contacts **302b** (see, e.g., FIGS. **4A**, **10C**, and **11C**). A second housing unit **300** may have a second base **304** and a second cover **320**. A second cover **320** may be releasably connectable (e.g., via one or more connectors, fasteners, latches, etc.) to a second base **304**, such as to close the second base **304** and/or define a second internal space **306** (see, e.g., FIG. **9**). One or more second electrical components **302** may be disposed in the second internal space **306**.

With embodiments, such as generally illustrated in FIGS. **4B**, **4C**, **7**, **9**, and **10D**, a second housing unit **300** may include a first electrical connector **308** configured to engage and/or be received in an electrical connector aperture **230** of a first housing unit **200** to, for example, facilitate establishing a mechanical connection and/or an electrical connection between the first housing unit **200** and the second housing unit **300**. A first electrical connector **308** may be disposed on, integrally formed with, and/or connected to a second base **304**. A first electrical connector **308** may extend from a second base **304** generally in a Z-direction. One or more second electrical components **302**, such as one or more second electrical contacts **302a**, may be disposed in and/or project into the first electrical connector **308** (e.g., generally in a Z-direction). When a first electrical connector **308** is engaged with and/or disposed/received in an electrical connector aperture **230** of a first housing unit **200**, one or more second electrical contacts **302a** may engage, contact, and/or abut one or more first electrical contacts **202a** of the first housing unit **200**, which may establish an electrical connection between the first housing unit **200** and/or the second housing unit **300**. In some examples, a sealing member **102** (e.g., a ring seal, gasket, grommet, etc.) may be disposed and/or pressed at least partially between a first electrical connector **308** and one or more aperture walls **232**, which may facilitate establishment of a sealed connection between

a first housing unit **200** and a second housing unit **300**. A sealing member **102** may be initially disposed in an electrical connector aperture **230** (see, e.g., FIGS. **2**, **3A**, and **3B**) and/or on a first electrical connector **308** (see, e.g., FIGS. **4C** and **9**) prior to connecting a first housing unit **200** and a second housing unit **300** to one another.

With embodiments, such as generally illustrated in FIGS. **1A-2**, **4A-4C**, **10A-10C**, and **11A-11C**, a second housing unit **300** may include a second electrical connector **310** configured to engage one or more external components (e.g., a wire harness, adapter, a cable, etc.), such as to electrically connect one or more first electrical components **202** and/or one or more second electrical components **302** to one or more external components, elements, and/or devices. A second electrical connector **310** may be disposed on, integrally formed with, and/or connected to a second cover **320**. A second electrical connector **310** may extend from a second cover **320** generally in a Z-direction. One or more second electrical components **302** disposed in the second housing unit **300**, such as one or more third electrical contacts **302b**, may be disposed in and/or project into the second electrical connector **310**.

With embodiments, such as generally illustrated in FIGS. **4A** and **4B**, a second cover **320** may include a second main portion **322** and one or more second wall portions **324**. A second main portion **322** may be generally planar and/or have a generally rectangular shape. One or more second wall portions **324** may project away from the second main portion **322** generally in a Z-direction (e.g., perpendicularly or obliquely relative to the second main portion **322**), and/or may be configured to engage, contact, and/or abut a second base **304**. A second main portion **322** may have a second external surface **322a**, which may face generally in a Z-direction (e.g., away from the first housing unit **200**).

With embodiments, such as generally illustrated in FIGS. **4A**, **4B**, **6-8**, **10A-10C**, and **11A-11C**, a second cover **320** may include one or more hook members **330** configured to engage and/or receive a portion of a locking member **400**, such as when the locking member **400** is disposed in a locked position. A hook member **330** may project away from a second main portion **322** (e.g., a second external surface **322a**) generally in a Z-direction (e.g., perpendicularly or obliquely relative to the second main portion **322**). A hook member **330** may include a hook member protrusion **332** that may be disposed at a free end of the hook member **330** and/or may be spaced apart from a second main portion **322** (e.g., a second external surface **322a**), such as in a Z-direction. A hook member protrusion **332** may extend toward a second end **300b** of the second housing unit **300** (e.g., generally in an X-direction) such that the hook member **330** defines a space **334** for receiving a portion of a locking member **400** (e.g., a portion of a first end **400a** of a locking member **400**). A hook member **330** may engage a portion of a locking member **400** (e.g., a portion of a first end **400a** of a locking member **400**) when a locking member **400** is disposed in a locked position, which may connect the locking member **400** to the second housing unit **300**. A hook member **330** may not engage a portion of a locking member **400** (e.g., a portion of a first end **400a** of a locking member **400**) when a locking member **400** is not disposed in a locked position, such as when the locking member **400** is disposed in a removal position and/or in an unlocked position.

With embodiments, such as generally illustrated in FIGS. **4A**, **4B**, **6-8**, **10A-10C**, and **11A-11C**, a second cover **320** may include one or more tabs **340** configured to engage a latch **430** of a locking member **400** and/or to be received in a latch recess **432** of the latch **430**, such as when the locking

member 400 is disposed in a locked position. A tab 340 may not be engaged with a latch 430 and/or a latch recess 432 of a locking member 400 when the locking member 400 is not disposed in a locked position, such as when the locking member 400 is disposed in a removal position and/or an unlocked position. A tab 340 may project away from a second main portion 322 (e.g., a second external surface 322a) generally in a Z-direction (e.g., perpendicularly or obliquely relative to the second main portion 322). A tab 340 may include a stop surface 342, which may face generally toward a first end 300a of the second housing unit 300 (e.g., generally in an X-direction). A stop surface 342 of the tab 340 may engage, contact, and/or abut a latch 430 of a locking member 400 when the locking member 400 is in a locked position, which may restrict and/or prevent (i) the locking member 400 from being adjusted out of the locked position (e.g., toward an unlocked position and/or a removal position) and/or (ii) the latch 430 from disengaging the tab 340. A tab 340 may include a sloped surface 344, which may extend obliquely relative to a second external surface 322a and/or a stop surface 342. A sloped surface 344 may be configured to engage, contact, and/or deflect a latch 430 of the locking member 400 (e.g., away from the second housing unit 300 generally in a Z-direction) as the locking member 400 is adjusted toward a locked position, which may facilitate inserting a tab 340 into a latch recess 432 and/or engaging the latch 430 with the stop surface 342.

With embodiments, such as generally illustrated in FIGS. 4A, 4B, 6-8, 10A-10C, and 11A-11C, a second cover 320 may include one or more hook connectors 350a, 350b (e.g., a first hook connector 350a and/or a second hook connector 350b) that may be configured to engage and/or receive a portion of a locking member 400, such as when the locking member 400 is disposed in an unlocked position. A hook connector 350a, 350b may project away from a second main portion 322 (e.g., a second external surface 322a) generally in a Z-direction (e.g., perpendicularly or obliquely relative to the second main portion 322). A hook connector 350a, 350b may include a hook connector protrusion 352a, 352b that may be disposed at a free end of the hook connector 350a, 350b and/or may be spaced apart from a second main portion 322 (e.g., a second external surface 322a). A hook connector protrusion 352a, 352b may extend toward a first end 300a of the second housing unit 300 (e.g., generally in an X-direction) such that the hook connector 350a, 350b defines a space 354a, 354b for receiving a portion of a locking member 400 (e.g., a first locking member edge 446a and/or a second locking member edge 446b). A hook connector 350a, 350b may engage a portion of a locking member 400 (e.g., a first locking member edge 446a and/or a second locking member edge 446b) when a locking member 400 is disposed in an unlocked position, which may connect the locking member 400 to the second housing unit 300. A hook connector 350a, 350b may not engage a portion of a locking member 400 (e.g., a first locking member edge 446a and/or a second locking member edge 446b) when a locking member 400 is not disposed in an unlocked position, such as when the locking member 400 is disposed in a removal position and/or a locked position. In some examples, a first hook connector 350a and a second hook connector 350b may be disposed on opposite sides of a tab 340 relative to a Y-direction.

With embodiments, such as generally illustrated in FIGS. 4A, 4B, 6-8, 10A-10C, and 11A-11C, a second cover 320 may include one or more connectors 360 that may be configured to adjustably (e.g., slidably) engage a locking member 400. A connector 360 may be configured to be

insertable into and/or removable from a slot 416 of a locking member 400 (e.g., via an expanded slot portion 416c). A connector 360 may be adjustable (e.g., slidable) within and/or along the slot 416, such as when adjusting a position of the locking member 400. A connector 360 may project away from a second main portion 322 (e.g., a second external surface 322a) generally in a Z-direction (e.g., perpendicularly or obliquely relative to the second main portion 322). A connector 360 may include one or more lateral protrusions 362, 364 (e.g., a first lateral protrusion 362 and/or a second lateral protrusion 364) that may be disposed at a free end of the connector 360 and/or may be spaced apart from a second main portion 322 (e.g., a second external surface 322a). A lateral protrusion 362, 364 may extend outward from the connector 360 (e.g., generally in a Y-direction) such that the connector 360 defines one or more spaces 366a, 366b for receiving a portion of a locking member 400. In some examples, a first lateral protrusion 362 and/or a second lateral protrusion 364 may extend from a connector 360 generally in opposite directions such that at least a portion of the connector 360 has a T-shaped cross-section in a plane perpendicular to an X-direction. A lateral protrusion 362, 364 may be configured to engage and/or contact a locking member 400, such as when a locking member 400 is disposed in an unlocked position and/or a locked position, to restrict removal of the connector 360 from a slot 416 of the locking member 400 and/or connect the locking member 400 to the second housing unit 300.

With embodiments, such as generally illustrated in FIGS. 1A, 2, 5A-10C, and 11A-11C, a locking member 400 may be releasably connectable to a first housing unit 200 and/or a second housing unit 300, such as to secure, lock, and/or fix the second housing unit 300 to the first housing unit 200. A locking member 400 may be movable (e.g., adjustable, rotatable, pivotable, slidable, etc.) relative a first housing unit 200 and/or a second housing unit 300. A locking member 400 may be movable to a locked position in which the locking member 400 may secure, lock, and/or fix a second housing unit 300 to a first housing unit 200 to restrict and/or prevent removal of the second housing unit 300 from the first housing unit 200. A locking member 400 may be movable to an unlocked position in which the locking member 400 may not secure, lock, and/or fix a second housing unit 300 to a first housing unit 200, which in turn may allow for the second housing unit 300 to be disconnected and/or removed from the first housing unit 200. When in an unlocked position, a locking member 400 may be connected to and/or mounted on a second housing unit 300 and, therefore, may be removable from the first housing unit 200 (e.g., simultaneously) with the second housing unit 300. A locking member 400 may be movable to a removal position in which the locking member 400 may be connectable to and/or disconnectable from a first housing unit 200 and/or a second housing unit 300.

With embodiments, such as generally illustrated in FIGS. 5A and 5B, a locking member 400 may include a locking member main portion 402 and one or more locking member wall portions 404. A locking member main portion 402 may be generally planar and/or have a generally rectangular shape. One or more locking member wall portions 404 may project away from the locking member main portion 402 generally in a Z-direction (e.g., perpendicularly or obliquely relative to the locking member main portion 402), and/or may be configured to engage, contact, and/or abut a first cover 220, a second cover 320, and/or a guide portion 258a, 258b. A locking member 400 may include a grip portion 406

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via which a user may grab the locking member **400**, such as when adjusting a position of the locking member **400**.

With embodiments, such as generally illustrated in FIGS. **5A** and **5B**, a locking member **400** may include one or more locking member flanges **410a-d** (e.g., a first locking member flange **410a**, a second locking member flange **410b**, a third locking member flange **410c**, and/or a fourth locking member flange **410d**) that may be configured to engage a corresponding guide portion **258a**, **258b** and/or a corresponding guide section **260a-d** of a first housing unit **200**. A first locking member flange **410a** may be configured to engage a first guide section **260a** and/or to adjust/slide in a first groove **262a**. A second locking member flange **410b** may be configured to engage a second guide section **260b** and/or to adjust/slide in a second groove **262b**. A third locking member flange **410c** may be configured to engage a third guide section **260c** and/or to adjust/slide in a third groove **262c**. A fourth locking member flange **410d** may be configured to engage a fourth guide section **260d** and/or to adjust/slide in a fourth groove **262d**. A first locking member flange **410a** and a third locking member flange **410c** may be disposed opposite one another at or about a second end **400b** of a locking member **400**. A second locking member flange **410b** and a fourth locking member flange **410d** may be disposed opposite one another at or about a first end **400a** of a locking member **400**. A locking member flange **410a-d** may be disposed on, connected to, and/or integrally formed with a locking member **400** (e.g., one or more locking member wall portions **404**). A locking member flange **410a-d** may protrude from a locking member **400** and/or one or more locking member wall portions **404** generally in a Y-direction and/or may extend along a portion of the locking member **400** generally in an X-direction. One or more locking member flanges **410a-d** (e.g., all locking member flanges **410a-d**) may not engage its corresponding guide section **260a-d** and/or groove **262a-d** when the locking member **400** is in an unlocked position. One or more locking member flanges **410a-d** (e.g., all locking member flanges **410a-d**) may engage its corresponding guide section **260a-d** and/or groove **262a-d** when the locking member **400** is not in an unlocked position, such as when the locking member **400** is in a removal position and/or a locked position.

With embodiments, such as generally illustrated in FIGS. **5A** and **5B**, a locking member **400** may include a slot **416** configured to adjustable receive and/or engage a connector **360** of a second housing unit **300**. A slot **416** may extend longitudinally in an X-direction and/or extend through a locking member **400** (e.g., a locking member main portion **402**) generally in a Z-direction. A slot **416** may include a first slot portion **416a**, a second slot portion **416b**, and/or an expanded slot portion **416c**. A first slot portion **416a** may be disposed at an end of the slot **416** disposed closer to a first end **400a** of a locking member **400**. A second slot portion **416b** may be disposed at an opposite end of the slot **416** disposed closer to a second end **400b** of a locking member **400**. A first slot portion **416a** and/or a second slot portion **416b** may be configured to restrict and/or prevent removal of a connector **360** of the second housing unit **300** from the slot **416** (e.g., due to the connector **360** and/or one or more lateral protrusions **362**, **364** contacting the locking member main portion **402**). An expanded slot portion **416c** may be disposed between the first slot portion **416a** and the second slot portion **416b** relative to an X-direction. An expanded slot portion **416c** may be configured to allow a connector **360** of the second housing unit **300** to be inserted into and/or removed from the slot **416**. For example, a distance from a free end of the first lateral protrusion **362** to a free end of the

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second lateral protrusion **364** may be (i) equal to or smaller than a width of an expanded slot portion **416c** (e.g., generally in a Y-direction) and/or (ii) greater than a width of the slot **416** outside of the expanded slot portion **416c** (e.g., a width of the first slot portion **416a** and/or a width of a second slot portion **416b**). Additionally and/or alternatively, an expanded slot portion **416c** may have a shape complementary and/or similar to a connector **360** (e.g., generally triangular). Due to the varying widths of the slot **416**, a connector **360** may be inserted into and/or removed from an expanded slot portion **416c** of the slot **416** (e.g., when the locking member **400** is disposed in a removal position), and/or removal of the connector **360** from the slot **416** may be restricted and/or prevented when the connector **360** is disposed in the first slot portion **416a** and/or the second slot portion **416b** (e.g., when the locking member **400** is not disposed in the removal position). A connector **360** may be disposed in and/or aligned with the expanded slot portion **416c** when the locking member **400** is disposed in a removal position. A connector **360** may be disposed in a first slot portion **416a** when the locking member **400** is disposed in an unlocked position. A connector **360** may be disposed in a second slot portion **416b** when the locking member **400** is disposed in a locked position.

With embodiments, such as generally illustrated in FIGS. **5A** and **5B**, a locking member **400** may include a latch **430** and/or a latch stop **434**. A latch **430** may be configured to engage a tab **340** of a second housing unit **300**, such as to secure the locking member **400** in a locked position. A latch **430** may include a latch recess **432** configured to receive a tab **340** of a second housing unit **300**. A latch **430** may be configured to elastically deform (e.g., generally in a Z-direction). A latch **430** may be configured to be deflected away from a second housing unit **300** toward a deflected position via a sloped surface **344** of a tab **340** when the locking member **400** is adjusted toward a locked position and/or to return to an undeflected position when the locking member **400** reaches the locked position and the latch **430** transitions from contacting the sloped surface **344** to contacting the stop surface **342** of the tab **340**. Additionally and/or alternatively, a latch **430** may be configured to be actuated and/or deflected by a user to disengage the latch **430** and the tab **340** from one another, which may enable the locking member **400** to be adjusted out of the locked position (e.g., toward a removal position and/or an unlocked position). For example and without limitation, the latch **430** may latch the locking member **400** in the locked position until released by user. A latch stop **434** may be configured to contact and/or abut a latch **430** to restrict flexing and/or deflection of the latch **430** beyond a certain point, such as when the latch **430** is actuated by a user (e.g., to prevent damage to the latch **430**). A latch stop **434** may be disposed at least partially above a latch **430** and/or a locking member opening **440** relative to a Z-direction, and/or may extend from a first side of a locking member **400** to a second side of a locking member **400** (e.g., generally in a Y-direction). The latch stop **434** may, for example, include a U-shaped configuration that may open toward the latch **430**. The latch stop **434** may be configured such that the hook connectors **350a-b** can move and/or slide under the latch stop **434** as the locking member **400** moves between positions.

With embodiments, such as generally illustrated in FIGS. **5A** and **5B**, a locking member **400** may include a locking member opening **440** configured to receive one or more hook connectors **350a**, **350b** and/or a tab **340** of a second housing unit **300**. A locking member opening **440** may extend through a locking member **400** (e.g., a locking

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member main portion **402**) generally in a Z-direction. A latch **430** of the locking member **400** may project into the locking member opening **440**, such as generally in an X-direction. A locking member opening **440** may include a first opening portion **440a**, a second opening portion **440b**, and/or a third opening portion **440c** (e.g., a notched opening portion). A first opening portion **440a** and/or a second opening portion **440b** may be disposed and/or defined on opposite sides of a latch **430** relative to a Y-direction, and/or may extend adjacent to the latch **430** generally in an X-direction. A first opening portion **440a** may be defined at least partially by a first locking member edge **446a** of the locking member **400**. A second opening portion **440b** may be defined at least partially by a second locking member edge **446b** of the locking member **400**. A third opening portion **440c** may be disposed between the first opening portion **440a** and/or the second opening portion **440b** (e.g., relative to a Y-direction). A first opening portion **440a** may be configured to adjustably receive a first hook connector **350a**, a second opening portion **440b** may be configured to adjustably receive a second hook connector **350b**, and/or a third opening portion **440c** may be configured to adjustably receive a tab **340**. The openings **440a-c** may, for example, be configured to function as tracks that receive the tab **340** and/or the hook connectors **350a-b** to restrict movement of the locking member **400** relative to the second housing unit **300** and/or the first housing unit **200**, such as to restrict X-direction, Y-direction, and/or Z-direction movement of the locking member **400**.

With embodiments, such as generally illustrated in FIG. 7, a locking member **400** may be moved (e.g., adjusted, rotated, pivoted, slid, etc.) to a removal position. When a locking member **400** is in a removal position, (i) a connector **360** may be disposed in and/or aligned with an expanded slot portion **416c**, which may allow for the connector **360** to be removed from the slot **416** (e.g., in a Z-direction), (ii) a first hook connector **350a** may be disposed in a first opening portion **440a** and may not engage a first locking member edge **446a**, (iii) a second hook connector **350b** may be disposed in a second opening portion **440b** and may not engage a second locking member edge **446b**, (iv) a tab **340** may be disposed in a third opening portion **440c** and may not engage a latch **430** and/or a latch recess **432**, and/or (v) a hook member **330** may not engage the locking member **400**. As such, a locking member **400** may be connectable to and/or disconnectable from a second housing unit **300** (e.g., a second cover **320**) when the locking member **400** is disposed in a removal position. A locking member **400** may be connected to and/or disconnected from a second housing unit **300** before the second housing unit **300** is disposed on and/or connected to a first housing unit **200**, which may facilitate assembly of the electrical assembly **100**. Additionally and/or alternatively, a locking member **400** may be connected to and/or disconnected from a second housing unit **300** after the second housing unit **300** is disposed on and/or connected to a first housing unit **200**. In some examples, when a locking member **400** is in a removal position, the locking member **400** may substantially restrict, block, and/or prevent a second housing unit **300** from being disposed in a receptacle **240** and/or connected to a first housing unit **200** (e.g., via one or more locking member flanges **410a-d** being misaligned with a corresponding notch **264a-d**, contacting a corresponding guide section **260a-d**, and/or contacting a corresponding protrusion **266a-d**). When in a removal position, a locking member **400** may also substantially restrict, block, and/or prevent a second housing unit **300** from being removed from a receptacle **240** and/or

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disconnected from a first housing unit **200** (e.g., via one or more locking member flanges **410a-d** being misaligned with a corresponding notch **264a-d**, contacting a corresponding guide section **260a-d**, and/or contacting a corresponding protrusion **266a-d**).

With embodiments, such as generally illustrated in FIGS. 8-10C, a locking member **400** may be moved (e.g., adjusted, rotated, pivoted, slid, etc.) to an unlocked position. When a locking member **400** is disposed in an unlocked position, (i) a connector **360** may be disposed in a first slot portion **416a**, which may restrict and/or prevent removal of the connector **360** from the slot **416**, (ii) a first hook connector **350a** may be disposed in a first opening portion **440a** and may engage a first locking member edge **446a**, (iii) a second hook connector **350b** may be disposed in a second opening portion **440b** and may engage a second locking member edge **446b**, (iv) a tab **340** may be disposed in a third opening portion **440c** and may not engage a latch **430**, (v) a hook member **330** may not engage the locking member **400**, and/or (vi) one or more locking member flanges **410a-d** (e.g., all locking member flanges **410a-d**) may be disposed relative to a second housing unit **300** and/or a first electrical connector **308** such that (a) the locking member flanges **410a-d** are insertable through a notch **264a-d** and into a groove **262a-d** of the corresponding guide section **260a-d** of a first housing unit **200** when inserting the first electrical connector **308** into an electrical connector aperture **230** of the first housing unit **200**, and/or (b) the locking member flanges **410a-d** are removable from the groove **262a-d** (via the notch **264a-d**) of the corresponding guide section **260a-d** when removing the first electrical connector **308** from the electrical connector aperture **230**. As such, when a locking member **400** is disposed in an unlocked position, the locking member **400** may be connected to and/or mounted on a second housing unit **300** (e.g., a second cover **320**) but may not be engaged with and/or connected to a first housing unit **200**.

With embodiments, such as generally illustrated in FIGS. 1A and 11A-11C, a locking member **400** may be moved (e.g., adjusted, rotated, pivoted, slid, etc.) to a locked position. When a locking member **400** is disposed in a locked position, (i) a connector **360** may be disposed in a second slot portion **416b** of the slot **416**, which may restrict and/or prevent removal of the connector **360** from the slot **416**, (ii) a first hook connector **350a** may be disposed in a first opening portion **440a** and may not engage a first locking member edge **446a**, (iii) a second hook connector **350b** may be disposed in a second opening portion **440b** and may not engage a second locking member edge **446b**, (iv) a tab **340** may engage a latch **430** and/or may be disposed in a latch recess **432**, (v) a hook member **330** may engage a portion of the locking member **400** (e.g., a first end **400a** of the locking member **400**), and/or (vi) one or more locking member flanges **410a-d** (e.g., all locking member flanges **410a-d**) may be (a) disposed relative to a second housing unit **300** and/or a first electrical connector **308** such that the locking member flanges **410a-d** are disposed in a groove **262a-d** of a corresponding guide section **260a-d** of a first housing unit **200** and/or (b) engaged with a protrusion **266a-d** (e.g., a first surface portion **270a-d** and/or a second surface portion **272a-d**) of the corresponding guide section **260a-d**, which may restrict and/or prevent removal of the locking member flanges **410a-d** from the grooves **262a-d** (e.g., via the notches **264a-d**). As such, when a locking member **400** is disposed in a locked position, the locking member **400** may be connected to, engaged with, and/or mounted on a first housing unit **200** (e.g., a first cover **220**) and/or a second

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housing unit **300** (e.g., a second cover **320**). Additionally, the second housing unit **300** may be pressed and/or sandwiched between the locking member **400** (e.g., the main portion of the locking member **400**) and/or the first housing unit **200** (e.g., the first cover **220**) generally in a Z-direction, which may connect, secure, lock, and/or fix the second housing unit **300** to the first housing unit **200** to restrict and/or prevent removal of the second housing unit **300** from the first housing unit **200**.

An embodiment of a method of assembling at least a portion of an electrical assembly **100** is generally illustrated in FIGS. 6-11C. The method may include connecting a locking member **400** to a second housing unit **300** as generally illustrated in FIGS. 6-8. Optionally, the method may include connecting a second housing unit **300** to a first housing unit **200** after connecting the locking member **400** to the second housing unit **300**, as generally illustrated in FIGS. 9-11C. Alternatively, the method may include connecting the second housing unit **300** to the first housing unit **200** prior to connecting the locking member **400** to the second housing unit **300** (see, e.g., FIG. 1B). An embodiment of a method of disassembling at least a portion of an electrical assembly **100** may include disengaging the latch **430** from the tab **340** (e.g., via actuating and/or deflecting the latch **430**) and/or performing one or more of the steps described below, such as in performing one or more of the steps in the opposite direction and/or performing one or more of the steps in the reverse order.

With embodiments, connecting a locking member **400** to a second housing unit **300** and/or a second cover **320** may include aligning (e.g., generally in a Z-direction) a connector **360** with an expanded slot portion **416c**, a first hook connector **350a** with a first opening portion **440a**, a second hook connector **350b** with a second opening portion **440b**, and/or a tab **340** with a third opening portion **440c** (see, e.g., FIG. 6). Once aligned, the locking member **400** may then be adjusted and/or moved onto the second housing unit **300** (e.g., generally in a Z-direction) such that the locking member **400** is disposed in a removal position (see, e.g., FIG. 7). Adjusting and/or moving the locking member **400** onto the second housing unit **300** may include inserting a connector **360** into an expanded slot portion **416c**, inserting a first hook connector **350a** into a first opening portion **440a**, inserting a second hook connector **350b** into a second opening portion **440b**, and/or inserting a tab **340** into a third opening portion **440c**. The locking member **400** may then be moved and/or adjusted (e.g., generally in an X-direction) from the removal position (see, e.g., FIG. 7) toward and/or to an unlocked position (see, e.g., FIG. 8), such as by sliding, rotating, pivoting, etc. Moving and/or adjusting a locking member **400** from a removal position toward and/or into an unlocked position may include sliding a connector **360** within the slot **416** from an expanded slot portion **416c** to a first slot portion **416a**, engaging a first hook connector **350a** with a first locking member edge **446a**, and/or engaging a second hook connector **350b** with a second locking member edge **446b**, which may connect the locking member **400** to the second housing unit **300** and/or restrict removal of the locking member **400** from the second housing unit **300**.

With embodiments, such as generally depicted in FIG. 9, connecting a second housing unit **300** to a first housing unit **200** may include inserting (e.g., generally in an X-direction) a portion of a first end **300a** of the second housing unit **300** into a receptacle **240** and/or an opening **246** of the first housing unit **200** and subsequently adjusting, moving, rotating, pivoting, etc. (e.g., generally in a Z-direction) a second end **300b** of the second housing unit **300** into the receptacle

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240. Adjusting and/or moving a second end **300b** of the second housing unit **300** into the receptacle **240** may include engaging and/or inserting a first electrical connector **308** into an electrical connector aperture **230**, which may include engaging and/or contacting one or more first electrical contacts **202a** with one or more second electrical contacts **302a** to establish an electrical connection between the first housing unit **200** and/or the second housing unit **300** (see, e.g., FIG. 10D). Additionally and/or alternatively, adjusting and/or moving a second end **300b** of the second housing unit **300** into the receptacle **240** may include inserting (e.g., generally in a Z-direction) a first locking member flange **410a** through a first notch **264a** and into a first groove **262a** of a first guide section **260a**, a second locking member flange **410b** through a second notch **264b** and into a second groove **262b** of a second guide section **260b**, a third locking member flange **410c** through a third notch **264c** and into a third groove **262c** of a third guide section **260c**, and/or a fourth locking member flange **410d** through a fourth notch **264d** and into a fourth groove **262d** of a fourth guide section **260d** to a position generally illustrated in FIGS. 10A-10C.

With embodiments, the locking member **400** may then be moved from the unlocked position (see, e.g., FIGS. 10A-10C) to a locked position (see, e.g., FIGS. 11A-11C), which may connect the locking member **400** to the first housing unit **200**, which may in turn secure, lock, and/or fix the second housing unit **300** to the first housing unit **200** via the locking member **400** to restrict and/or prevent removal of the second housing unit **300** from the first housing unit **200**. Adjusting a locking member **400** from the unlocked position to the locked position may include adjusting and/or sliding (e.g., generally in an X-direction) a first locking member flange **410a** through a first groove **262a** to engage a first protrusion **266a**, a second locking member flange **410b** through a second groove **262b** to engage a second protrusion **266b**, a third locking member flange **410c** through a third groove **262c** to engage a third protrusion **266c**, and/or a fourth locking member flange **410d** through a fourth groove **262d** to engage a fourth protrusion **266d**, which may connect the locking member **400** and/or the second housing unit **300** to the first housing unit **200**. Adjusting a locking member flange **410a-d** through a groove **262a-d** may include engaging, contacting, and/or sliding the locking member flange **410a-d** along a first surface portion **270a-d** of the protrusion **266a-d** (e.g., generally in an X-direction) to engage the second surface portion **272a-d**, which may adjust and/or move at least a portion of the locking member **400** toward the first housing unit **200** (e.g., generally in a Z-direction) and/or push the second housing unit **300** toward and/or against the first housing unit **200**, which may ensure a tight and secure connection between the first housing unit **200** and the second housing unit **300**. Additionally and/or alternatively, adjusting a locking member **400** from the unlocked position to the locked position may include sliding a connector **360** within the slot **416** from a first slot portion **416a** to a second slot portion **416b**, adjusting a first hook connector **350a** within a first opening portion **440a** to disengage the first hook connector **350a** from a first locking member edge **446a**, adjusting a second hook connector **350b** within a second opening portion **440b** to disengage the second hook connector **350b** from a second locking member edge **446b**, engaging at least a portion of a locking member **400** (e.g., a first end **400a**) with a hook member **330**, and/or engaging a latch **430** with a tab **340**. Engaging a latch **430** with a tab **340** may include deflecting the latch **430** away from the second housing unit **300** via sliding the latch **430** along a sloped surface **344** of the tab **340**, inserting the tab **340** into a latch

recess **432** of the latch **430**, and/or engaging/contacting a stop surface **342** of the tab **340** with the latch **430**, which may restrict and/or prevent the locking member **400** from adjusting and/or moving out of the locked position (e.g., toward a removal position and/or an unlocked position).

While embodiments are generally illustrated with the first housing unit **200** including one or more guide portions **258a**, **258b** and the locking member **400** including one or more locking member flanges **410a-d**, embodiments may also include the opposite configuration or a combination/mixture of guide portion/flange configurations. While embodiments are generally illustrated with the second housing unit **300** including one or more connectors **360**, tabs **340**, hooks members **330**, and/or hook connectors **350a**, **350b**, and the locking member **400** including one or more slots **416**, openings **440**, latches **430**, and/or edges **446a**, **446b**, embodiments may also include the opposite configuration or a combination/mixture of the connector/slot, tab/latch, and/or hook/edge configurations.

Various examples/embodiments are described herein for various apparatuses, systems, and/or methods. Numerous specific details are set forth to provide a thorough understanding of the overall structure, function, manufacture, and use of the examples/embodiments as described in the specification and illustrated in the accompanying drawings. It will be understood by those skilled in the art, however, that the examples/embodiments may be practiced without such specific details. In other instances, well-known operations, components, and elements have not been described in detail so as not to obscure the examples/embodiments described in the specification. Those of ordinary skill in the art will understand that the examples/embodiments described and illustrated herein are non-limiting examples, and thus it can be appreciated that the specific structural and functional details disclosed herein may be representative and do not necessarily limit the scope of the embodiments.

Reference throughout the specification to “examples,” “in examples,” “with examples,” “various embodiments,” “with embodiments,” “in embodiments,” or “an embodiment,” or the like, means that a particular feature, structure, or characteristic described in connection with the example/embodiment is included in at least one embodiment. Thus, appearances of the phrases “examples,” “in examples,” “with examples,” “in various embodiments,” “with embodiments,” “in embodiments,” or “an embodiment,” or the like, in places throughout the specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more examples/embodiments. Thus, the particular features, structures, or characteristics illustrated or described in connection with one embodiment/example may be combined, in whole or in part, with the features, structures, functions, and/or characteristics of one or more other embodiments/examples without limitation given that such combination is not illogical or non-functional. Moreover, many modifications may be made to adapt a particular situation or material to the teachings of the present disclosure without departing from the scope thereof.

It should be understood that references to a single element are not necessarily so limited and may include one or more of such element. Any directional references (e.g., plus, minus, upper, lower, upward, downward, left, right, leftward, rightward, top, bottom, above, below, vertical, horizontal, clockwise, and counterclockwise) are only used for identification purposes to aid the reader's understanding of

the present disclosure, and do not create limitations, particularly as to the position, orientation, or use of examples/embodiments.

Joinder references (e.g., attached, coupled, connected, and the like) are to be construed broadly and may include intermediate members between a connection of elements, relative movement between elements, direct connections, indirect connections, fixed connections, movable connections, operative connections, indirect contact, and/or direct contact. As such, joinder references do not necessarily imply that two elements are directly connected/coupled and in fixed relation to each other. Connections of electrical components, if any, may include mechanical connections, electrical connections, wired connections, and/or wireless connections, among others. Uses of “e.g.” and “such as” in the specification are to be construed broadly and are used to provide non-limiting examples of embodiments of the disclosure, and the disclosure is not limited to such examples. Uses of “and” and “or” are to be construed broadly (e.g., to be treated as “and/or”). For example and without limitation, uses of “and” do not necessarily require all elements or features listed, and uses of “or” are inclusive unless such a construction would be illogical.

While processes, systems, and methods may be described herein in connection with one or more steps in a particular sequence, it should be understood that such methods may be practiced with the steps in a different order, with certain steps performed simultaneously, with additional steps, and/or with certain described steps omitted.

All matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative only and not limiting. Changes in detail or structure may be made without departing from the present disclosure.

What is claimed is:

1. An electrical assembly, comprising:
 - a first housing unit including a guide portion;
 - a second housing unit releasably connectable to the first housing unit; and
 - a locking member configured to slidably engage the guide portion;
 wherein the locking member is disposed at least partially within the first housing unit;
 - wherein the locking member is adjustable relative to the first housing unit and the second housing unit to an unlocked position and a locked position;
 - wherein, when the locking member is in the unlocked position, the second housing unit is removable from the first housing unit;
 - wherein, when the locking member is in the locked position, the second housing unit is secured to the first housing unit via the locking member; and
 - wherein the second housing unit includes a hook connector configured to engage the locking member and, when the locking member is in the unlocked position, the hook connector engages the locking member and connects the locking member to the second housing unit.
2. The electrical assembly of claim 1, wherein the locking member is removably and slidably connected to the second housing unit.
3. The electrical assembly of claim 1, wherein:
 - the locking member includes a slot;
 - the second housing unit includes a connector projecting therefrom, the connector disposed at least partially in the slot;
 - when the locking member is adjusted toward the unlocked position, the connector slides along the slot toward a first end of the slot; and

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when the locking member is adjusted toward the locked position, the connector slides along the slot toward a second end of the slot disposed opposite the first end of the slot.

4. The electrical assembly of claim 3, wherein:
the connector includes a lateral protrusion; and
the lateral protrusion of the connector is configured to engage the locking member to restrict removal of the connector from the slot and to connect the locking member to the second housing unit.

5. The electrical assembly of claim 3, wherein:
the locking member is removably and slidably connected to the second housing unit;
the locking member is adjustable to a removal position;
the slot includes an expanded portion via which the connector is insertable and/or removable from the slot;
and

when the locking member is in the removal position, the connector is disposed in the expanded portion of the slot such that the locking member is removable from the second housing unit.

6. The electrical assembly of claim 5, wherein:
the connector includes a first lateral protrusion and a second lateral protrusion;
the first lateral protrusion and the second lateral protrusion extend from an end of the connector in opposite directions; and

a distance from a free end of the first lateral protrusion to a free end of the second lateral protrusion is:
equal to or smaller than a width of the expanded portion of the slot; and
greater than a width of the slot outside of the expanded portion.

7. The electrical assembly of claim 1, wherein:
the second housing unit includes a hook member configured to engage the locking member; and
when the locking member is in the locked position, the hook member engages the locking member and connects the locking member to the second housing unit.

8. The electrical assembly of claim 1, wherein:
the second housing unit includes a tab;
the locking member includes a latch configured to engage the tab; and

when the locking member is in the locked position, the latch engages the tab and restricts adjustment of the locking member toward the unlocked position.

9. The electrical assembly of claim 8, wherein:
the locking member includes a latch stop; and
the latch stop is disposed spaced apart from the latch and configured to restrict flexing of the latch.

10. The electrical assembly of claim 1, wherein:
the first housing unit includes (i) an opening configured to receive a portion of the second housing unit and (ii) an electrical connector receptacle;
the second housing unit includes an electrical connector;
and

the opening, the electrical connector receptacle, and the electrical connector are configured such that the portion of the second housing unit is insertable into the opening in a first direction and, subsequently, the second housing unit is adjustable in a second direction, which is different than the first direction, to engage the electrical connector with the electrical connector receptacle.

11. The electrical assembly of claim 1, wherein:
the second housing unit further includes:
a connector;
a tab; and
a hook member;

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the locking member includes:

a slot configured to receive the connector;
a flange configured to slidably engage a groove of the guide portion; and
a latch configured to engage the tab;

the connector is slidably disposed in the slot;

when the locking member is in the unlocked position:

the connector is disposed in a first slot portion of the slot;

the hook connector is engaged with the locking member; and

the locking member is connected to the second housing unit via the connector and the hook connector;

when the locking member is in the locked position:

the flange is engaged with the groove and connects the locking member to the first housing unit;

the connector is disposed in a second slot portion of the slot;

the latch is engaged with the tab and resists adjustment of the locking member toward the unlocked position; and

the hook member is engaged with the locking member.

12. The electrical assembly of claim 11, wherein:

the locking member is removably and slidably connected to the second housing unit;

the locking member is adjustable to a removal position;
the slot includes an expanded slot portion via which the connector is insertable and/or removable from the slot;

the expanded slot portion of the slot is disposed between the first slot portion and the second slot portion; and
when the locking member is in the removal position, the connector is disposed in the expanded slot portion such that the locking member is removable from the second housing unit.

13. A method of assembling the electrical assembly of claim 1, comprising:

releasably connecting the first housing unit and the second housing unit; and

restricting the first housing unit and the second housing unit from disconnecting via adjusting the locking member from the unlocked position to the locked position;
wherein adjusting the locking member from the unlocked position to the locked position includes engaging the locking member with the guide portion of the first housing unit.

14. The method of claim 13, wherein:

engaging the locking member with the guide portion includes inserting a flange of the locking member into a groove of the guide portion, wherein the groove is at least partially defined by a guide surface of the guide portion having a first surface portion and a second surface portion, and the first surface portion is sloped toward an internal space of the first housing unit; and
adjusting the locking member from the unlocked position to the locked position includes moving the second housing unit toward the first housing unit via sliding the flange along the first surface portion toward the second surface portion.

15. The method of claim 13, including:

prior to connecting the first housing unit and the second housing unit, disposing the locking member on the second housing unit in a removal position; and

releasably connecting the locking member to the second housing unit via adjusting the locking member from the removal position to the unlocked position;

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wherein, when the locking member is disposed in the removal position, the locking member is disposable on and removable from the second housing unit.

16. The method of claim **15**, wherein:

adjusting the locking member from the removal position to the unlocked position includes engaging the locking member with the hook connector of the second housing unit; and

adjusting the locking member from the unlocked position to the locked position includes:

disengaging the locking member from the hook connector; and

engaging the locking member with a hook member of the second housing unit.

17. An electrical assembly, comprising:

a first housing unit including a guide portion;

a second housing unit releasably connectable to the first housing unit; and

a locking member configured to slidably engage the guide portion;

wherein the locking member is adjustable relative to the first housing unit and the second housing unit to an unlocked position and a locked position;

wherein, when the locking member is in the unlocked position, the second housing unit is removable from the first housing unit;

wherein, when the locking member is in the locked position, the second housing unit is secured to the first housing unit via the locking member;

wherein the locking member is linearly adjustable to a removal position from the unlocked position and the locked position; and

wherein, when the locking member is in the removal position, the locking member is removable from the second housing unit.

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18. The electrical assembly of claim **17**, wherein:

the locking member moves with respect to the first housing unit when transitioning between the locked position, the unlocked position, and a removal position.

19. An electrical assembly, comprising:

a first housing unit including a guide portion;

a second housing unit releasably connectable to the first housing unit; and

a locking member configured to slidably engage the guide portion;

wherein the locking member is adjustable relative to the first housing unit and the second housing unit to an unlocked position and a locked position;

wherein, when the locking member is in the unlocked position, the second housing unit is removable from the first housing unit;

wherein, when the locking member is in the locked position, the second housing unit is secured to the first housing unit via the locking member;

wherein the guide portion includes a groove configured to receive a flange of the locking member;

wherein, when the locking member is in the locked position, the flange is engaged with the groove and connects the locking member and the second housing unit to the first housing unit;

wherein the guide portion includes a guide surface that at least partially defines the groove; and

wherein the guide surface includes a first surface portion that is sloped toward an internal space of the first housing unit such that, as the locking member is adjusted toward the locked position, the locking member (i) contacts the first surface portion, (ii) is moved toward the internal space of the first housing unit, and (iii) presses the second housing unit against the first housing unit.

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