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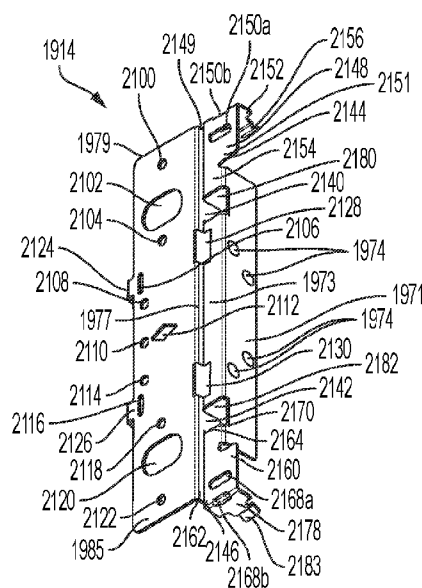


FIG. 22

(57) Abstract: An electrical box assembly is provided that includes an electrical box and a bracket connected to the electrical box with the bracket being configured to mount the electrical box to a stud, a brace assembly, in a gang application, or, when the electrical box is a first electrical box and the bracket is a first bracket that is mounted to a first side of the stud, a second bracket connected to a second electrical box can be mounted to a second side of the stud at the same time that the first bracket is mounted to the first side of the stud so that at least a portion of the first bracket is at the same height of at least a portion of the second bracket on the stud. A flat blank for a brace is additionally provided that includes a middle portion connected between a first strip and a second strip, a first cutout being formed between the first strip and the middle portion, and a second cutout being between the second strip and the middle portion.

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BRACE WITH SLIDING BRACKET

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of US Application 63/311,328, filed February 17, 2022, the contents of which are incorporated by reference herein. This application claims the benefit of US Application 63/344,821, filed May 23, 2022, the contents of which are incorporated by reference herein. This application claims the benefit of US Application 63/344,825, filed May 23, 2022, the contents of which are incorporated by reference herein. This application claims the benefit of US Application 63/344,827, filed May 23, 2022, the contents of which are incorporated by reference herein.

BACKGROUND

1. Field of the Invention

[0002] The present disclosure is related to a brace with a sliding bracket. In particular, the present disclosure is related to an electrical box assembly that has a universal mounting for either a stud or a brace, can be used for gangable applications, and, when the electrical box is a first electrical box mounted to a first side of the stud, a second electrical box can be mounted to a second side of the stud at the same time that the first electrical box is mounted to the first side of the stud.

2. Description of Related Art

[0003] Electrical boxes enclose and support electrical devices, cables, and wiring. Electrical boxes can be secured to a structure such as a ceiling or wall. One way to connect an electrical box to a wall is to connect the electrical box to a framing stud or a brace. However, available brackets welded to electrical boxes are usually field mounted to the stud or to the brace. Currently, on prefabricated applications, it is unknown how the electrical box will be installed. Depending on the mounting application (stud or brace), a box undesirably has to be pre-selected before sending it to the field.

[0004] The braces discussed above allow installation of electrical boxes in between two

adjacent studs. During manufacturing, braces undesirably waste, for example, up to 40 percent or more of materials. In addition, undesirable scraping of the materials is needed during manufacture of the braces.

[0005] Accordingly, it has been determined by the present disclosure that there is a continuing need for a device that overcomes, alleviates, and/or mitigates one or more of the aforementioned and other deleterious effects of prior devices.

SUMMARY

[0006] An electrical box assembly is provided that includes an electrical box and a bracket connected to the electrical box with the bracket being configured to mount the electrical box to a stud, a brace assembly, in a gang application, or, when the electrical box is a first electrical box and the bracket is a first bracket that is mounted to a first side of the stud, a second bracket connected to a second electrical box can be mounted to a second side of the stud at the same time that the first bracket is mounted to the first side of the stud so that at least a portion of the first bracket is at the same height of at least a portion of the second bracket on the stud.

[0007] A mounting bracket for supporting an electrical box is also provided that includes a first leg being connectable to an electrical box, a member being connectable to a stud, another electrical box assembly or structure, and a first connector being connectable to a brace assembly.

[0008] A flat blank for a brace is additionally provided that includes a middle portion connected between a first strip and a second strip, a first cutout being formed between the first strip and the middle portion, and a second cutout being between the second strip and the middle portion.

[0009] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the bracket has a first leg that is connected to the electrical box.

[0010] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the bracket has a first connector being

connectable to a brace.

[0011] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the first connector has a brace support that is extendible around the brace assembly.

[0012] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the brace support has a bent member.

[0013] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the bracket has a member being connectable to a stud, another electrical box assembly or structure.

[0014] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the member has a first tab and a second tab.

[0015] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the member has a first aperture and a second aperture.

[0016] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the electrical box assembly is a first electrical box assembly that is connectable to a second electrical box assembly having a bracket that is the same as the bracket of the first electrical box assembly so that the first tab of the first electrical box assembly fits in one of the first aperture and the second aperture of the second electrical box assembly and the second tab of the first electrical box assembly fits in another of the first aperture and the second aperture of the second electrical box assembly.

[0017] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the first connector has a brace support that extends around a brace assembly.

[0018] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the brace support has a bent member.

[0019] In some embodiments either alone or together with any one or more of the

aforementioned and/or after-mentioned embodiments, a second connector is at an opposite end of the mounting bracket than the first connector.

[0020] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, each of the first connector and the second connector has a brace support that extends around the brace assembly.

[0021] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, each of the first connector and the second connector has a hole to receive a fastener to connect the mounting bracket to the brace assembly.

[0022] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, a member is connectable to the stud, the another electrical box assembly or structure.

[0023] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the member has a first tab, a second tab, a first aperture and a second aperture.

[0024] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the flat blank is trimmed less than or equal to 3 percent of a material forming the flat blank.

[0025] In some embodiments either alone or together with any one or more of the aforementioned and/or after-mentioned embodiments, the flat blank is free from scraping.

[0026] The above-described and other features and advantages of the present disclosure will be appreciated and understood by those skilled in the art from the following detailed description, drawings, and appended claims.

DESCRIPTION OF THE DRAWINGS

[0027] FIG. 1 is a front perspective view of a first electrical box assembly, a second electrical box assembly and plate mounted on a brace assembly.

[0028] FIG. 2 is a rear perspective view of FIG. 1.

[0029] FIG. 3 is a front perspective view of the first electrical box assembly of FIG. 1 mounted to a stud and the second electrical box assembly of FIG. 1.

[0030] FIG. 4 is a rear perspective view of FIG. 3.

[0031] FIG. 5 is a front perspective view of the first electrical box assembly of FIG. 1 mounted to a stud and the plate of FIG. 1.

[0032] FIG. 6 is a front perspective view of the first electrical box assembly and the second electrical box assembly mounted to a stud.

[0033] FIG. 7 is an enlarged front perspective view of the circled portion of the first electrical box assembly and the second electrical box assembly mounted to the stud of FIG. 6.

[0034] FIG. 8 is a front perspective view of the first electrical box assembly of FIG. 1.

[0035] FIG. 9 is a bottom view of FIG. 8.

[0036] FIG. 10 is a front perspective view of a bracket of one of the first electrical box assembly and the second electrical box assembly of FIG. 1.

[0037] FIG. 11 is a side view of FIG. 10.

[0038] FIG. 12 is a front perspective view of the brace assembly of FIG. 1.

[0039] FIG. 13 is a front perspective view of an outer brace member of the brace assembly of FIG. 1.

[0040] FIG. 14 is a front perspective view of an inner brace member of the brace assembly of FIG. 1.

[0041] FIG. 15 is a front view of a flat blank of the outer brace member of FIG. 13.

[0042] FIG. 16 is a front view of a flat blank of the inner brace member of FIG. 14.

[0043] FIG. 17 is a front perspective view of the plate of FIG. 1.

[0044] FIG. 18 is a front perspective view of a latch of one of the first electrical box assembly and the second electrical box assembly of FIG. 1.

[0045] FIG. 19 is a front perspective view of another embodiment of an electrical box assembly.

[0046] FIG. 20 is a front perspective view of the electrical box assembly of FIG. 19 having different dimensions.

[0047] FIG. 21 is a side view of FIG. 20.

[0048] FIG. 22 is a front perspective view of a bracket of the electrical box assemblies of FIGS. 19 and 20.

[0049] FIG. 23 is a front perspective view of two electrical box assemblies of FIG. 19 and one electrical box assembly of FIG. 20 mounted on another embodiment of a brace assembly.

[0050] FIG. 24 is an inverted rear perspective view of FIG. 23.

[0051] FIG. 25 is a front perspective view of the two electrical box assemblies of FIG. 19 and the one electrical box assembly of FIG. 20 mounted to a stud.

[0052] FIG. 26 is an inverted rear perspective view of FIG. 25.

DETAILED DESCRIPTION

[0053] Referring to the drawings and in particular to FIG. 1, an exemplary embodiment of an electrical box assembly according to the present disclosure is shown and is generally referred to by reference numeral 10 (“assembly 10”). Assembly 10 has a universal mounting for either a stud 100 or a brace assembly 200, making it much easier for prefabricated (“pre-fab”) applications. Assembly 10 also allows for a free hand installation, for example, as shown in FIG. 3, and for box gangable applications. Box gangable applications refers to single electrical boxes that can be connected (ganged) side-by-side to one another or other components, for example, as shown in FIGS. 3 and 5.

[0054] Advantageously, assembly 10 is configured to (1) mount on a stud; (2) mount on a

brace; and (3) connect in gangable applications. A further advantage allows a mud ring (not shown) to be removed from assembly 10 while assembly 10 maintains a connection to one or more of stud 100, brace assembly 200, another assembly 10 or structure assembly 10 is connected to, and any combination thereof.

[0055] Still referring to FIG. 1, assembly 10 has an electrical box 12 connected to two brackets 14. The two brackets 14 are positioned to be inverted relative to one another on electrical box 12. Brackets 14 are connected to electrical box 12, for example, by welding. Electrical box 12, for example, supports electrical devices, cables, and wiring. Brackets 14 are on opposite sides of electrical box 12 to mount electrical box 12 to stud 100, brace assembly 200, another assembly 10 or other structure. Assembly 10 can be the same as electrical box assembly 2700 of U.S. Patent Application Serial No. 17/228,288, filed April 12, 2021, that is incorporated herein by reference in its entirety, except assembly 10 replaces first bracket 110 and second bracket 112 of electrical box assembly 2700 with two brackets 14. Alternatively, assembly 10 can be the same as electrical box 12 of U.S. Patent No. 7,923,635, filed January 11, 2010, that is incorporated herein by reference in its entirety, except assembly 10 replaces brackets 72 with brackets 14.

[0056] As shown in FIG. 10, bracket 14 includes a first leg 71 and a second leg 73 extending perpendicular to leg 71. Leg 71 includes a plurality of detents 74 for attaching bracket 14 to a side wall of electrical box 12 by a spot weld or the like. As shown in FIG. 9, second leg 73 lies in the same plane or a plane spaced outward from the top edge of electrical box 12.

[0057] Referring back to FIG. 10, the top or outer face of second leg 73 is connected to a third leg 77 that extends outward from second leg 73. Third leg 77 is connected to a fourth leg 79 that is perpendicular to third leg 77. As shown in FIG. 9, fourth leg 79 lies in a plane spaced outward from the top edge of electrical box 12. Referring back to FIG. 10, fourth leg 79 forms a first flap 85 and a second flap 86. Fourth leg 79 includes an embossment 75 formed on first flap 85 protruding outwardly and having a generally convex outer profile. Embossment 75 has an outer dimension and a height corresponding substantially to the dimension of a screw head or other fastener that is used to fasten bracket 14 to stud 100. Embossment 75 also has a height substantially equal to screws 76 (FIG. 1) threaded into electrical box 12 for mounting a mud ring (not shown) to electrical box 12. When assembly 10 is connected to stud 100 or brace assembly 200 and an outer wall is positioned over assembly 10, the outer wall contacts an outer surface of embossment 75 so that the outer wall

is spaced from screws 76. In this manner, screws 76 do not interfere with the mounting of the outer wall. Fourth leg 79 also includes a cutout 80 formed on second flap 86 having a tab 82 that extends upward and outward to protrude outwardly similar to embossment 75. Tab 82 has an opening 84. Similar to embossment 75, when assembly 10 is connected to stud 100 or brace assembly 200 and the outer wall is positioned over assembly 10, the outer wall contacts an outer surface of tab 82 so that the outer wall is spaced from screws 76. Fourth leg 79 has a hole 20 formed through first flap 85 and a hole 22 formed through second flap 86. Holes 20, 22 receive fasteners, for example, screws 24, 26 as shown in FIG. 3 that connect assembly 10 to stud 100. Fourth leg 79 has a tab 28 formed by grooves 30, 32 formed on opposite sides of tab 28. On a side of each grooves opposite tab 28 is one of receptacles 34, 36. Each of receptacles has an opening to receive connection portions 47 of latch 41 show in FIGS. 8 and 18. Latch 41 has insertion portions 47 connected to connector portions 45 that are connected to opposite sides of a hook portion 43. Latch 41 is rotatable in receptacles 34, 36 relative to bracket 14. As shown in FIG. 1, an opening 38 can be through second leg 73, third leg 75 and fourth leg 79.

[0058] Referring to FIGS. 10 and 11, bracket 14 has a first projection 40 and a second projection 42 each extending from fourth leg 79 on opposite sides of second leg 73. First projection 40 and second projection 42 extend inward in the same direction as third leg 77. Bracket 14 has a first brace connector 44 extending from fourth leg 79 on a side of first projection 40 opposite third leg 77. Bracket 14 has a second brace connector 46 extending from fourth leg 79 on a side of second projection 42 opposite third leg 77. Connectors 44, 46 extend a length of bracket 14 beyond first leg 71 and second leg 73 to allow for attachment to brace assembly 200. First brace connector 44 has a first tab member 48 that has a first connection portion 49 that extends perpendicular from fourth leg 79 and a first extension portion 51 that is bent in a direction away from fourth leg 79. First brace connector 44 has a hole 50 through first tab member 48 and brace supports 52, 54 that extend from first tab member 48 on opposite sides of hole 50. Each of brace supports 52, 54 extend perpendicular to first tab member 48. Each of brace supports 52, 54 are bent at a free end to form bent member 56, 58 that each extend away from fourth leg 79. Second brace connector 46 has a second tab member 60 that has a second connection portion 62 that extends perpendicular from fourth leg 79 and a second extension portion 64 that is bent in a direction away from fourth leg 79. Second brace connector 46 has a hole 68 through second tab member 60 and brace supports 70, 78 that extend from second tab member 60 on opposite sides of hole 68.

Each of brace supports 70, 78 extend perpendicular to second tab member 60. Each of brace supports 70, 78 are bent at a free end to form bent member 81, 83 that each extend away from fourth leg 79.

[0059] Brace assembly 200 can be used with brackets 14 of assembly 10. Brace assembly 200 can be connected to three assemblies 10. Referring to FIG. 12, brace assembly 200 has an inner brace member 202 and an outer brace member 204. Referring to FIG. 13, outer brace member 204 has an outer end support 206 and a first outer rail 208 and a second outer rail 210 extending from outer end support 206. Outer end support 206 has holes 207. First outer rail 208 and a second outer rail 210 have holes 211. Each of first outer rail 208 and second outer rail 210 has a depression 213, 215.

[0060] Referring to FIG. 14, inner brace member 202 has an inner end support 212 and a first inner rail 214 and a second inner rail 216 extending from inner end support 212. Inner end support 212 has holes 213. First inner rail 214 and second inner rail 216 have holes 217. Each of first inner rail 214 and second inner rail 216 has a depression 219, 221. First outer rail 208, second outer rail 210, first inner rail 214 and second inner rail 216 each have a C-shaped cross-section.

[0061] Referring back to FIG. 12, the C-shaped cross-section of first inner rail 214 is sized smaller than the C-shaped cross-section of first outer rail 208 so that first outer rail 208 fits over first inner rail 214 and the C-shaped cross-section of second inner rail 216 is sized smaller than the C-shaped cross-section of second outer rail 210 so that second outer rail 210 fits over second inner rail 216 allowing first outer rail 208 and second outer rail 210 to slide on first inner rail 214 and second inner rail 216, respectively, to move outer end support 206 and inner end support 212 toward and away from one another adjusting a size of brace assembly 200. Depressions 213, 215 each fit in one of depressions 219, 221 at a maximum distance outer end support 206 and inner end support 212 can be apart, so that inner brace member 202 and an outer brace member 204 are prevented from separating.

[0062] Referring to FIG. 15, a flat blank 1500 forms outer brace member 204. Flat blank 1500 has a middle portion 1502 that connects a first outer strip 1504 and a second outer strip 1506. A notch 1508 is formed adjacent the connection between first outer strip 1504 and middle portion 1502 on a first side and cutout 1510 is formed at the connection between first outer strip 1504 and middle portion 1502 on a second side that is opposite the first side.

Cutout 1510 has an angled portion 1512 and a middle straight portion 1514 forming a side of middle portion 1502 and a straight strip portion 1516 that has a tab 1518 extending therefrom. A notch 1520 is formed adjacent the connection between second outer strip 1506 and middle portion 1502 on the first side and cutout 1522 is formed at the connection between second outer strip 1506 and middle portion 1502 on the second side that is opposite the first side. Cutout 1522 has an angled portion 1524 and a middle straight portion 1526 forming another side of middle portion 1502 and a straight strip portion 1528 that has a tab 1530 extending therefrom. Middle portion 1502 forms a notch 1532 on the second side.

[0063] Flat blank 1500 is folded to form outer brace member 204. First outer strip 1504 is folded along cutout 1510 to be perpendicular to middle portion 1502. First outer strip 1504 is folded along straight strip portion 1516 to form the C-shaped cross-section. Similarly, second outer strip 1506 is folded along cutout 1522 to be perpendicular to middle portion 1502. Second outer strip 1506 is folded along straight strip portion 1528 to form the C-shaped cross-section. A portion of middle portion 1502 formed between angled portions 1512, 1524 is folded in a direction that is opposite to a direction that first outer strip 1504 and second outer strip 1506 are folded. Tabs 1518, 1530 are folded to abut a portion of middle portion 1502 that is between first outer strip 1504 and second outer strip 1506 when first outer strip 1504 and second outer strip 1506 are folded.

[0064] Flat blank 1500 can be produced, for example, by stamping a material, for example, a metal material. To form outer brace member 204, trimming of only equal to or less than 3 percent of the material of flat blank 1500 is needed. Flat blank 1500 does not require scraping to form outer brace member 204.

[0065] Referring to FIG. 16, a flat blank 1600 forms inner brace member 206. Flat blank 1600 is the same as flat blank 1500 except flat blank 1600 has a different size. Flat blank 1600 is folded the same as flat blank 1500 to form inner brace member 206.

[0066] Referring to FIGS. 1 and 2, assembly 10 is connectable to brace assembly 200. Brace assembly 200 is adjustable to a size that fits between a space between a first stud 102 and a second stud 104. Fasteners 222, for example, screws, are positioned in holes 207 of outer end support 206 and first stud 102 to connect outer brace member 204 to first stud 102. Fasteners 222 are positioned in holes 213 of inner end support 212 and second stud 104 to connect inner brace member 202 to second stud 104.

[0067] Still referring to FIGS. 1 and 2, to connect assembly 10 to brace assembly 200, first outer rail 208 of brace assembly 200 is positioned between brace supports 52, 54 of first brace connector 44 of a first bracket 14a and second outer rail 210 of brace assembly 200 is positioned between brace supports 70, 78 of second brace connector 46 of first bracket 14a. Bent member 56, 58 of first bracket 14a that are biased toward one another are urged away from one another to receive first outer rail 208. Bent members 56, 58 of first bracket 14a are then biased against first outer rail 208 when assembly 10 is connected to brace assembly 200. Bent member 81,83 of first bracket 14a that are biased toward one another are urged away from one another to receive second outer rail 210. Bent members 81,83 of first bracket 14a are then biased against second outer rail 210 when assembly 10 is connected to brace assembly 200.

[0068] First outer rail 208 of brace assembly 200 is positioned between brace supports 70, 78 of second brace connector 46 of a second bracket 14b and second outer rail 210 of brace assembly 200 is positioned between brace supports 52, 54 of first brace connector 44 of second bracket 14b. Bent member 81,83 of second bracket 14b that are biased toward one another are urged away from one another to receive first outer rail 208. Bent members 81,83 of second bracket 14b are then biased against first outer rail 208 when assembly 10 is connected to brace assembly 200. Bent member 56, 58 of second bracket 14b that are biased toward one another are urged away from one another to receive second outer rail 210. Bent members 56, 58 of second bracket 14b are then biased against second outer rail 210 when assembly 10 is connected to brace assembly 200. Fastener 91 is inserted in hole 50 of first brace connector 44 of the first bracket 14a and one of holes 211 of outer brace member 204 aligned therewith to connect assembly 10 to brace assembly 200. Fastener 91 is inserted in hole 50 of first brace connector 44 of the second bracket 14b and one of holes 211 of outer brace member 204 aligned therewith to connect assembly 10 to brace assembly 200. If outer brace member 204 is overlapping inner brace member 202 at the location where either or both of two fasteners 91 pass through outer brace member 204, then either or both of two fasteners 91 can pass through holes 211 of outer brace member 204 and holes 217 of inner brace member 202 that are aligned with holes 211 of outer brace member 204. Alternatively, assembly 10 can be connected only to inner brace member 202 where two fasteners 91 pass through holes 217 of inner brace member 204 that are aligned with hole 50 of first brace connector 44 of the first bracket 14a and hole 50 of first brace connector 44 of the second

bracket 14b. A second assembly 1100 is the same as assembly 10 except has a larger size and is connected to brace assembly 200 the same way as assembly 10.

[0069] As shown in FIG. 1, plate 300 can also be connected to brace assembly 200. Plate 300 is a low voltage plate. Referring to FIG. 17, plate 300 has a plate body 302. Plate body 302 has a middle opening 304. Middle opening 304 can, for example, receive a switch for a light that can be fastened to plate body 302 by fasteners that fit through holes 306. Tabs 305 also extend from plate body 302 in a first direction for support. Plate body 302 has side openings 308 that each have prongs 309 that extend from opposite sides of openings 308 in the first direction. Each of openings 308 have two holes 310 on opposite sides of each of openings 308. Plate 300 has embossment 375 positioned on a first flap 303. Embossment 375 outwardly protrudes from a side of plate body 302 in a second direction that is opposite to the first direction that prongs 309 extend. A cutout 380 having a tab 382 is formed on a second flap 307. Tab 382 extends upward and outward to protrude outwardly in the second direction similar to embossment 375. Tab 382 has an opening 384. Plate body 302 has a hole 312 through first flap 303 adjacent embossment 375. Plate body 302 has a hole 314 through second flap 307 adjacent tab 382. Referring back to FIG. 1, to connect plate 300 to brace assembly 200, prongs 309 of one of side openings 308 extend on opposite sides of first inner rail 214 and prongs 309 of another of side openings 308 extend on opposite sides of second inner rail 216 of inner brace member 202. Each fastener 316 is positioned through one of two of holes 310 and one of holes 217 of inner brace member 202 aligned therewith. Alternatively, prongs 309 of one of side openings 308 extend on opposite sides of first outer rail 208 and prongs 309 of another of side openings 308 extend on opposite sides of second outer rail 210 of outer brace member 204 and fasteners 316 are positioned through two of holes 310 and holes 211 through outer brace member 204 and/or holes 217 of inner brace member 202 aligned therewith.

[0070] Referring to FIGS. 3 and 4, assembly 10 can be connected to stud 100. To connect assembly 10 to stud 100, latch 41 of a first bracket 14a of brackets 14 is rotated from a stored position where each of connector portions 45 extends through one of grooves 30, 32 in bracket 14a as shown in FIGS. 8 and 9 to a use position as shown in FIG. 3. First bracket 14a is positioned on stud 100 so that hook portion 43 of latch 41 extends around an edge 105 of stud 100 while fourth leg 79 abuts an outer wall 106 of stud 100 and third leg 77, first projection 40 and second projection 42 abut a sidewall 108 of stud 100. Hook portion 43 of

latch 41 extending around edge 105 of stud 100 while fourth leg 79 abuts outer wall 106 of stud 100 and third leg 77, first projection 40 and second projection 42 abut sidewall 108 of stud 100 maintains assembly 10 in position on stud 100 when connecting assembly 10 to stud 100 with screws 24, 26 without the need of a user to hold assembly 10 against stud 100 by hand. Use of latch 41 can be referred to as handsfree installation of assembly 10 on stud 100, since neither of the user's hands are needed to hold assembly 10 in position on stud 100 when connecting assembly 10 to stud 100 with screws 24, 26. Screw 24 is then inserted in hole 20 of fourth leg 79 and screw 26 is inserted in hole 20 of fourth leg 79 securing assembly 10 to stud 100. Once assembly 10 is connected to stud 100, then a mud ring (not shown) can be connected and removed from assembly 10 without electrical box 12 falling off of stud 10, which advantageously allows the mud ring to be removed for wiring without electrical box 12 falling off of stud 10.

[0071] Assembly 10 can also be connected to stud 100 without using latch 41. When assembly 10 is connected to stud 100 without using latch 41, then latch 41 is maintained in the stored position as shown in FIGS. 8 and 9 and assembly 10 is connected to stud 100 with screws 24, 26 as described herein; however, assembly 10 needs to be held in position against stud 100, for example, by one of the user's hands while screws 24, 26 are inserted. Studs can be many different sizes and latch 41 may not be able to be used with all sizes.

[0072] Alternatively, a second bracket 14b of brackets 14 of assembly 10 can be connected to an opposite side stud 100. Second bracket 14b is in a position that is inverted relative to first bracket 14a. Latch 41 of second bracket 14b is rotated from a stored position as shown in FIGS. 8 and 9 to a use position as shown in FIG. 3. Second bracket 14b is positioned on stud 100 so that hook portion 43 of latch 41 extends around corner 107 of stud 100 while fourth leg 79 abuts outer wall 106 of stud 100 and third leg 77, first projection 40 and second projection 42 abut an edge 105 of stud 100. Hook portion 43 of latch 41 extending around corner 107 of stud 100 while fourth leg 79 abuts outer wall 106 of stud 100 and third leg 77, first projection 40 and second projection 42 abut edge 105 of stud 100 maintains assembly 10 in position on stud 100 when connecting assembly 10 to stud 100 with screws 24, 26 without the need of a user to hold assembly 10 against stud 100 by hand. Screw 24 is then inserted in hole 20 of fourth leg 79 and screw 26 is inserted in hole 20 of fourth leg 79 securing assembly 10 to stud 100.

[0073] Still referring to FIGS. 3 and 4, assembly 10 can be connected to stud 100 in a

gangable application. Assembly 10 is connected to assembly 1100 in a gangable application shown in FIGS. 3 and 4. First, first bracket 14a of assembly 10 is connected to stud 100 as described herein, and, then, second bracket 14b of brackets 14 of assembly 10 is connected to a first bracket 1114a of brackets 14 of assembly 1100. Although FIGS. 3 and 4 show assembly 10 as only having one latch, assembly 10 can have two latches as shown in FIG. 8 and 9, and, latch 41 of assembly 10 that is not connected to stud 100 is maintained in the stored position as shown in FIG. 10 for the gangable application. Similar to assembly 10, latches 41 of assembly 1100 are both also maintained in the stored position. First flap 85 of first bracket 1114a is placed on top of second flap 86 of second bracket 14b so that a portion of first flap 85 of first bracket 1114a fits in between tab 82 and second flap 86 of second bracket 14b positioning embossment 75 of first bracket 1114a through opening 84 in tab 82 of second bracket 14b to maintain a connection between first flap 85 of first bracket 1114a and second flap 86 of second bracket 14b. First flap 85 of second bracket 14b is placed on top of second flap 86 of first bracket 1114a so that a portion of first flap 85 of second bracket 14b fits in between tab 82 and second flap 86 of first bracket 1114a positioning embossment 75 of second bracket 14b through opening 84 in tab 82 of first bracket 1114a to maintain a connection between first flap 85 of second bracket 14b and second flap 86 of first bracket 1114a. First flap 85 of second bracket 14b is placed on top of second flap 86 of first bracket 1114a so that hole 20 of first flap 85 of second bracket 14b is aligned with hole 22 of second flap 86 of first bracket 1114a and hole 20 of first flap 85 of first bracket 1114a is aligned with hole 22 of second flap 86 of second bracket 14b. A fastener 500, for example, a screw, is inserted through hole 20 of first flap 85 of first bracket 1114a and hole 22 of second flap 86 of second bracket 14b and fastener 502, for example, a screw, is inserted through hole 20 of first flap 85 of second bracket 14b and hole 22 of second flap 86 of first bracket 1114a connecting assembly 10 to assembly 1100. Referring to FIG. 4, each of assembly 10 and assembly 1100 can have a support 11, 1111 connected to electrical box 12. Assemblies 10, 1100 and stud 100 will be positioned between a front drywall panel and a rear drywall panel of a wall. Support 11, 1111 rests against the rear drywall panel to support assemblies 10, 1100 connected to stud 100.

[0074] Alternatively, second bracket 14b can be connected to stud 100 and first bracket 14a can be connected to a second bracket 1114b of assembly 1100. Second bracket 1114b is in a position that inverted relative to first bracket 1114a. First, second bracket 14b of assembly 10 is connected to stud 100 as described herein, and, then, first bracket 14a of assembly 10 is

connected to second bracket 1114b of assembly 1100. Latches 41 of assembly 10 and assembly 1100 that are not connected to stud 100 are all maintained in the stored position as shown in FIG. 10 for the gangable application. First flap 85 of first bracket 14a is placed on top of second flap 86 of second bracket 1114b so that a portion of first flap 85 of first bracket 14a fits in between tab 82 and second flap 86 of second bracket 1114b positioning embossment 75 of first bracket 14a through opening 84 in tab 82 of second bracket 1114b to maintain a connection between first flap 85 of first bracket 14a and second flap 86 of second bracket 1114b. First flap 85 of second bracket 1114b is placed on top of second flap 86 of first bracket 14a so that a portion of first flap 85 of second bracket 1114b fits in between tab 82 and second flap 86 of first bracket 14a positioning embossment 75 of second bracket 1114b through opening 84 in tab 82 of first bracket 14a to maintain a connection between first flap 85 of second bracket 1114b and second flap 86 of first bracket 14a. First flap 85 of second bracket 1114b is placed on top of second flap 86 of first bracket 14a so that hole 20 of first flap 85 of second bracket 1114b is aligned with hole 22 of second flap 86 of first bracket 14b and hole 20 of first flap 85 of first bracket 14a is aligned with hole 22 of second flap 86 of second bracket 1114b. A fastener 500, for example, a screw, is inserted through hole 20 of first flap 85 of first bracket 14a and hole 22 of second flap 86 of second bracket 1114b and fastener 502, for example, a screw, is inserted through hole 20 of first flap 85 of second bracket 1114b and hole 22 of second flap 86 of first bracket 14a connecting assembly 10 to assembly 1100.

[0075] Referring to FIG. 5, assembly 10 can be connected to plate 300 in a gangable application. Assembly 10 is connected to stud 100 as described herein, and, then, second bracket 14b of assembly 10 is connected to plate 300. Latch 41 of assembly 10 that is not connected to stud 100 is maintained in the stored position as shown in FIG. 10 for the gangable application. First flap 303 of plate 300 is placed on top of second flap 86 of second bracket 14b so that a portion of first flap 303 of plate 300 fits in between tab 82 and second flap 86 of second bracket 14b positioning embossment 375 of plate 300 through opening 84 in tab 82 of second bracket 14b to maintain a connection between first flap 303 of plate 300 and second flap 86 of second bracket 14b. First flap 85 of second bracket 14b is placed on top of second flap 307 of plate 300 so that a portion of first flap 85 of second bracket 14b fits in between tab 382 and second flap 307 of plate 300 positioning embossment 75 of second bracket 14b through opening 384 in tab 382 of plate 300 to maintain a connection between first flap 85 of second bracket 14b and second flap 307 of plate 300. First flap 85 of second

bracket 14b is placed on top of second flap 307 of plate 300 so that hole 20 of first flap 85 of second bracket 14b is aligned with hole 314 of second flap 307 of plate 300 and hole 312 of first flap 303 of plate 300 is aligned with hole 22 of second flap 86 of second bracket 14b. A fastener 504, for example, a screw, is inserted through hole 312 of first flap 303 of plate 300 and hole 22 of second flap 86 of second bracket 14b and fastener 506, for example, a screw, is inserted through hole 20 of first flap 85 of second bracket 14b and hole 314 of second flap 307 of plate 300 connecting assembly 10 to plate 300.

[0076] Alternatively, second bracket 14b can be connected to stud 100 and first bracket 14a can be connected to a plate 300. First, second bracket 14b of assembly 10 is connected to stud 100 as described herein, and, then, first bracket 14a of assembly 10 is connected to plate 300 that is in a position that is inverted relative to FIG. 5. Latch 41 of assembly 10 that is not connected to stud 100 is maintained in the stored position. First flap 85 of first bracket 14a is placed on top of second flap 307 of plate so that a portion of first flap 85 of first bracket 14a fits in between tab 382 and second flap 307 of plate 300 positioning embossment 75 of first bracket 14a through opening 384 in tab 382 of plate 300 to maintain a connection between first flap 85 of first bracket 14a and second flap 307 of plate 300. First flap 303 of plate 300 is placed on top of second flap 86 of first bracket 14a so that a portion of first flap 303 of plate 300 fits in between tab 82 and second flap 86 of first bracket 14a positioning embossment 375 of plate 300 through opening 84 in tab 82 of first bracket 14a to maintain a connection between first flap 303 of plate 30 and second flap 86 of first bracket 14a. First flap 303 of plate 300 is placed on top of second flap 86 of first bracket 14a so that hole 312 of first flap 303 of plate 300 is aligned with hole 22 of second flap 86 of first bracket 14a and hole 20 of first flap 85 of first bracket 14a is aligned with hole 314 of second flap 307 of plate. A fastener 504, for example, a screw, is inserted through hole 20 of first flap 85 of first bracket 14a and hole 314 of second flap 307 of plate 300 and fastener 506, for example, a screw, is inserted through hole 312 of first flap 303 of plate 300 and hole 22 of second flap 86 of first bracket 14a connecting assembly 10 to plate 300.

[0077] Referring to FIGS. 6 and 7, assemblies 10 can be placed side-by-side with one another or side-by-side with another structure, for example, assembly 1100 as shown in FIGS. 6 and 7. Bracket 14b is connected to stud 100 as described herein, for example, with fastener 26 through hole 22 and fastener 24 through hole 20 (not shown), and bracket 1114a is connected to stud as described herein for bracket 14a, for example, with fastener 26 through hole 22 and

fastener 24 through hole 20 (not shown). Opening 38 through bracket 14b of assembly 10 allows for hook portion 43 of latch 41 of bracket 1114a to contact stud 100 and opening 38 through bracket 1114a allows for hook portion 43 of latch of bracket 14b to contact stud 100.

[0078] Referring to FIG. 19, another exemplary embodiment of an electrical box assembly according to the present disclosure is shown and is generally referred to by reference numeral 1900 (“assembly 1900”). Similar to assembly 10, assembly 1900 advantageously is configured to (1) mount on a stud; (2) mount on a brace; and (3) connect in gangable applications.

[0079] Assembly 1900 has an electrical box 1912 connected to two brackets 1914. The two brackets 1914 are positioned to be inverted relative to one another on electrical box 1912. Brackets 1914 are connected to electrical box 1912, for example, by welding. Electrical box 1912, for example, supports electrical devices, cables, and wiring. Brackets 1914 are on opposite sides of electrical box 1912 to mount electrical box 1912 to stud 100, a brace assembly 2300, another assembly 1900 or other structure. Assembly 1900 can be the same as electrical box assembly 2700 of U.S. Patent Application Serial No. 17/228,288, filed April 12, 2021, that is incorporated herein by reference in its entirety, except assembly 1900 replaces first bracket 110 and second bracket 112 of electrical box assembly 2700 with two brackets 1914. Alternatively, assembly 1900 can be the same as electrical box 12 of U.S. Patent No. 7,923,635, filed January 11, 2010, that is incorporated herein by reference in its entirety, except assembly 1900 replaces brackets 72 with brackets 1914.

[0080] As shown in FIG. 22, bracket 1914 includes a first leg 1971 and a second leg 1973 extending perpendicular to leg 1971. Leg 1971 includes a plurality of detents 1974 for attaching bracket 1914 to a side wall of electrical box 1912 by a spot weld or the like. As shown in FIG. 19, second leg 1973 lies in the same plane or a plane spaced outward from the top edge of electrical box 12. Referring back to FIG. 21, the top or outer face of second leg 1973 is connected to a third leg 1977 that extends outward from second leg 1973. Third leg 1977 is connected to a fourth leg 1979 that is perpendicular to third leg 1977. As shown in FIG. 19, fourth leg 1979 lies in a plane spaced outward from the top edge of electrical box 1912. Referring back to FIG. 22, fourth leg 1979 forms a member 1985. Member 1985 is shaped as a flat sheet. Member 1985 has a first hole 2100, a first horizontal oblong hole 2102, a second hole 2104, a first vertical oblong hole 2106, a third hole 2108, a fourth hole 2110 adjacent a diamond shaped hole 2112, a fifth hole 2114, a second vertical oblong hole

2116, a sixth hole 2118, a second horizontal oblong hole 2120 and a seventh hole 2122 through member 1985. Member 1985 has a first edge connected to third leg 1977 and a second edge that is free opposite the first edge. Member 1985 has a first tab 2124 adjacent first vertical oblong hole 2106 that extends from the second edge of member 1985 in a direction parallel with first leg 1971. Member 1985 has a second tab 2126 adjacent second vertical oblong hole 2116 that extends from the second edge of member 1985 in a direction parallel with first leg 1971. First tab 2124 and second tab 2126 can be broken off due to first vertical oblong hole 2106 and second vertical oblong hole 2116, respectively. Bracket 1914 has apertures 2128, 2130 that extend through the first edge of member 1985, third leg 1977 and second leg 1973.

[0081] Bracket 1914 has a first brace connector 2144 extending from the first edge of fourth leg 1979 on a first end. Bracket 1914 has a second brace connector 2146 extending from the first edge of fourth leg 1979 on a second end that is opposite the first end. First brace connector 2144 has a first tab member 2148 that has a first connection portion 2149 that extends perpendicular from fourth leg 1979 and a first extension portion 2151 that is bent in a direction away from fourth leg 1979. First brace connector 2144 has a first hole 2150a and a second hole 2150b through first tab member 2148. A brace support 2152 extends from first tab member 2148 at the first end of bracket 1914 and is bent along second hole 2150b. Brace support 2152 extends perpendicular to first tab member 2148. Brace support 2152 is bent at a free end to form bent member 2156 that extends away from first tab member 2148. First tab member 2148 has a bridge portion 2154 that connects between first connection portion 2149 and first leg 1971. Similar to first brace connector 2144, second brace connector 2146 has a second tab member 2160 that has a second connection portion 2162 that extends perpendicular from fourth leg 1979 and a second extension portion 2164 that is bent in a direction away from fourth leg 1979. Second brace connector 2146 has a first hole 2168a and a second hole 2168b through second tab member 2160. A brace support 2178 extends from second tab member 2160 at the second end of bracket 1914 and is bent along second hole 2168b. Brace support 2178 extends perpendicular to second tab member 2160. Brace support 2178 is bent at a free end to form bent member 2183 that extends away from second tab member 2160. Second tab member 2160 has a bridge portion 2170 that connects between second connection portion 2162 and first leg 1971. A first gap 2180 is formed between bridge portion 2154, first leg 1971, second leg 1973 and fourth leg 1979. A first projection 2140 extends from fourth leg 1979 through gap 2180. A second gap 2182 is formed between

bridge portion 2170, first leg 1971, second leg 1973 and fourth leg 1979. A second projection 2142 extends from fourth leg 1979 through gap 2182.

[0082] Referring to FIGS. 20 and 21, an assembly 2000 is the same as assembly 1900 except has a larger size. Assembly 1900 can vary in sizes.

[0083] Referring to FIGS. 23 and 24, assembly 1900 is connectable to brace assembly 2300. Brace assembly 2300 is the same as brace assembly 200 except that brace assembly 2300 is sized so that outer brace member 204 has a wider space between first outer rail 208 and second outer rail 210 and inner brace member 202 has a wider space between first inner rail 214 and second inner rail 216, and, accordingly the same reference numbers are used for brace assembly 2300 and brace assembly 200. Outer brace member 204 having the wider space between first outer rail 208 and second outer rail 210 and inner brace member 202 having the wider space between first inner rail 214 and second inner rail 216 of brace assembly 2300 advantageously allows cables to be connected to electrical box 1912 of assembly 1900 prior to connecting assembly 1900 to brace assembly 2300. In particular, electrical box 1912 that is connected to the cables can be rotated when between first outer rail 208 and second outer rail 210 and/or first inner rail 214 and second inner rail 216 of brace assembly 2300 allowing for easier installation.

[0084] Still referring to FIGS. 23 and 24, an assembly 1900a that is the same as assembly 1900, and accordingly the same reference numbers are used, has electrical box 1912, a bracket 1914a and a bracket 1914b that is inverted relative to bracket 1914a. Bracket 1914a and bracket 1914b are the same as bracket 1914. Electrical box 1912 of assembly 1900a is positioned between first outer rail 208 and second outer rail 210 positioning brace support 2152 of bracket 1914a and brace support 2178 of bracket 1914b around first outer rail 208 so that bent member 2156 of bracket 1914a and bent member 2183 of bracket 1914b are positioned behind first outer rail 208 and brace support 2178 of bracket 1914a and brace support 2152 of bracket 1914b are around second outer rail 210 so that bent member 2183 of bracket 1914a and bent member 2156 of bracket 1914b are positioned behind second outer rail 210. To secure assembly 1900a on brace assembly 2300, fasteners 2302 are each positioned in one of first holes 2150a and 2168a of each of brackets 1914a, 1914b. Fasteners 2302 are, for example, screws. If a user would like to position assembly 1900a closer to outer end support 206 of outer brace member 204, then member 1985 of bracket 1914a can

overlap outer end support 206 so that fasteners 222 can each be positioned through one of first horizontal oblong hole 2102 and second horizontal oblong hole 2120.

[0085] Assembly 2000 is connected to brace assembly 2300 the same as assembly 1900. To position assembly 2000 closer to assembly 1900a, member 1985 of a bracket 1914c of assembly 2000 closest to assembly 1900a overlaps member 1985 of bracket 1914b of assembly 1900a so that first tab 2124 of assembly 2000 is through aperture 2130 of assembly 1900a and second tab 2126 of assembly 2000 is through aperture 2128 of assembly 1900a and so that a portion of member 1985 of bracket 1914b of assembly 1900a is between first tab 2124 and first projection 2140 and a portion of member 1985 of bracket 1914b of assembly 1900a is between second tab 2126 and second projection 2142. Bracket 1914c is the same as bracket 1914. Alternatively, to position assembly 2000 closer to assembly 1900, member 1985 of bracket 1914b of assembly 1900a can overlap member 1985 of bracket 1914c of assembly 2000 so that second tab 2126 of assembly 1900a is through aperture 2128 of assembly 2000 and first tab 2124 of assembly 1900a is through aperture 2130 of assembly 2000 and so that a portion of member 1985 of bracket 1914c of assembly 2000 is between second tab 2126 and second projection 2142 and a portion of member 1985 of bracket 1914c of assembly 2000 is between first tab 2124 and first projection 2140. An assembly 1900b that is the same as assembly 1900 is connected to brace assembly 2300 the same as assembly 1900a except assembly 1900b is connected to inner brace member 202 instead of outer brace member 204; however, assembly 1900b connects to inner brace member 202 the same as connecting to outer brace member 204. If a user would like to position assembly 1900b closer to assembly 2000, first tab 2124 and second tab 2126 can be broken off of bracket 1914e of assembly 1900b closest to assembly 2000 and/or tab 2124 and second tab 2126 can be broken off of bracket 1914d of assembly 2000 closest to assembly 1900b. Bracket 1914e is the same as bracket 1914. Alternatively, member 1985 of bracket 1914d of assembly 2000 closest to assembly 1900b overlaps member 1985 of bracket 1914e of assembly 1900b closest to assembly 2000 similar to that described for bracket 1914b of assembly 1900a and bracket 1914c of assembly 2000 above or member 1985 of bracket 1914e of assembly 1900b closest to assembly 2000 overlaps member 1985 of bracket 1914d of assembly 2000 closest to assembly 1900b similar to that described for bracket 1914b of assembly 1900a and bracket 1914c of assembly 2000 above. Brackets 1914d and 1914e are the same as bracket 1914. If a user would like to position assembly 1900b closer to inner end support 212 of inner brace member 202, then member 1985 of bracket 1914f closest to inner end support 212 can

overlap inner end support 212 so that fasteners 222 can each be positioned through one of first horizontal oblong hole 2102 and second horizontal oblong hole 2120. Bracket 1914f is the same as bracket 1914. First hole 2100 and/or seventh hole 2122 of any of brackets 1914a-f can also be connected to holes 211 or holes 217.

[0086] Referring to FIGS. 25 and 26, assembly 1900 is connectable to stud 100. Assembly 2000 is connectable to stud 100 the same as assembly 1900. Bracket 1914c of assembly 2000 is placed over stud 100 so that first tab 2124 and second tab 2126 are on a first side of stud 100 and first projection 2140 and second projection 2142 are on a second opposite side of stud 100 to temporarily hold assembly 2000 in place on stud 100. A fastener 2500 can be inserted through second hole 2104 and stud 100 and a fastener 2500 can be inserted through sixth hole 2118 and stud to connect bracket 1914c of assembly 2000 to stud 100.

Alternatively, assembly 2000 could be connected to stud 100 on the opposite side of stud 100 by connecting bracket 1914d to stud 100. To connect bracket 1914d to stud 100, bracket 1914d is placed over stud 100 so that first tab 2124 and second tab 2126 are on the second side of stud 100 and first projection 2140 and second projection 2142 are on the first side of stud 100 to temporarily hold assembly 2000 in place on stud 100. Fastener 2500 can be inserted through second hole 2104 and stud 100 and a fastener 2500 can be inserted through sixth hole 2118 and stud to connect bracket 1914d of assembly 2000 to stud 100.

[0087] To also connect assembly 1900a to stud 100 and assembly 2000, prior to inserting fasteners 2500 through bracket 1914c of assembly 2000, member 1985 of bracket 1914b of assembly 1900a overlaps member 1985 of bracket 1914c of assembly 2000 so that second tab 2126 of assembly 1900a is through aperture 2128 of assembly 2000 and first tab 2124 of assembly 1900a is through aperture 2130 of assembly 2000 so that a portion of member 1985 of bracket 1914c of assembly 2000 is between first tab 2124 and first projection 2140 and a portion of member 1985 of bracket 1914c of assembly 2000 is between second tab 2126 and second projection 2142 connecting brackets 1914b and 1914c. First projection 2140 and second projection 2142 of bracket 1914b of assembly 1900a also are adjacent the first side of stud 100. When brackets 1914b and 1914c are connected, assemblies 1900a and 2000 are temporarily held in place on stud 100 so that fastener 2500 can be inserted through sixth hole 2118 of bracket 1914b, second hole 2104 of bracket 1914c and stud 100 and the other fastener 2500 can be inserted through second hole 2104 of bracket 1914b, sixth hole 2118 of bracket 1914c and stud 100 to connect bracket 1914b of assembly 1900a, bracket 1914c of

assembly 2000 to stud 100. Alternatively, bracket 1914b of assembly 1900a can be placed on stud 100 prior to connecting assembly 2000 to assembly 1900a. Bracket 1914b of assembly 1900a is placed stud 100 the same as bracket 1914d of assembly 2000 described above. Once bracket 1914b is placed on stud 100 and prior to inserting fasteners 2500, member 1985 of bracket 1914c of assembly 2000 can then overlap member 1985 of bracket 1914b of assembly 1900a so that first tab 2124 of assembly 2000 is through aperture 2130 of assembly 1900a and second tab 2126 of assembly 2000 is through aperture 2128 of assembly 1900a so that assemblies 1900a and 2000 are temporarily held in place on stud 100 and fastener 2500 can be inserted through sixth hole 2118 of bracket 1914b, second hole 2104 of bracket 1914c and stud 100 and the other fastener 2500 can be inserted through second hole 2104 of bracket 1914b, sixth hole 2118 of bracket 1914 and stud 100 to connect bracket 1914b of assembly 1900a, bracket 1914c of assembly 2000 to stud 100. First projection 2140 and second projection 2142 of bracket 1914c of assembly 2000 also are adjacent the first side of stud 100.

[0088] Assemblies 1900 can be placed side-by-side with one another as shown by assembly 2000 being connected to assembly 1900b in FIGS. 25 and 26 by placing member 1985 of bracket 1914e of assembly 1900b to overlap member 1985 of bracket 1914d of assembly 2000 so that first tab 2124 of bracket 1914e of assembly 1900b is through aperture 2130 of bracket 1914d of assembly 2000 and second tab 2126 of bracket 1914e of assembly 1900b is through aperture 2128 of bracket 1914d assembly 2000 so that a portion of member 1985 of bracket 1914d of assembly 2000 is between first tab 2124 and first projection 2140 of assembly 1900b and a portion of member 1985 of bracket 1914d of assembly 2000 is between second tab 2126 and second projection 2142 of assembly 1900b connecting brackets 1914d and 1914e. When brackets 1914d and 1914e are connected, assemblies 1900b and 2000 are temporarily held in place together in a snap connection so that fastener 2500 can be inserted through sixth hole 2118 of bracket 1914d and second hole 2104 of bracket 1914e and another fastener 2500 can be inserted through second hole 2104 of bracket 1914d and sixth hole 2118 of bracket 1914e to connect bracket 1914e of assembly 1900b and bracket 1914d of assembly 2000. Alternatively, assembly 2000 can be connected to assembly 1900b by placing member 1985 of a bracket 1914d of assembly 2000 to overlap member 1985 of bracket 1914e of assembly 1914b so that second tab 2126 of bracket 1914d of assembly 2000 is through aperture 2128 of bracket 1914e of assembly 1900b and first tab 2124 of bracket 1914d of assembly 2000 is through aperture 2130 of bracket 1914e of assembly 1900b so that

a portion of member 1985 of bracket 1914e of assembly 1900b is between second tab 2126 and second projection 2142 of assembly 2000 and a portion of member 1985 of bracket 1914e of assembly 1900b is between first tab 2124 and first projection 2140 of assembly 2000 connecting brackets 1914d and 1914e. When brackets 1914d and 1914e are connected, assemblies 1900b and 2000 are temporarily held in place together in a snap connection so that fastener 2500 can be inserted through sixth hole 2118 of bracket 1914d and second hole 2104 of bracket 1914e and another fastener 2500 can be inserted through second hole 2104 of bracket 1914d and sixth hole 2118 of bracket 1914e to connect bracket 1914e of assembly 1900b and bracket 1914d of assembly 2000. First hole 2100 and/or seventh hole 2122 of any of brackets 1914a-f can also be connected stud 100 by fasteners, for example, screws. Bracket 1914a of assembly 1900a and a bracket 1914f of assembly 1900b can be connected to side supports 2502 through one or more of third hole 2108, fourth hole 2110, diamond shaped hole 2112, and/or fifth hole 2114.

[0089] Accordingly, assembly 10, 1900 advantageously is configured to (1) mount on a stud; (2) mount on a brace; and (3) connect in gangable applications. Although a user may need to substitute different sized assemblies 10 for different applications, assembly 10 advantageously allows a mud ring (not shown) to be removed from assembly 10 while assembly 10 maintains a connection to one or more of stud 100, brace assembly 200, another assembly 10 or structure, and any combination thereof, without electrical box 12 dropping therefrom.

[0090] It should also be noted that the terms “first”, “second”, “third”, “upper”, “lower”, and the like may be used herein to modify various elements. These modifiers do not imply a spatial, sequential, or hierarchical order to the modified elements unless specifically stated.

[0091] While the present disclosure has been described with reference to one or more exemplary embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the present disclosure. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the disclosure without departing from the scope thereof. Therefore, it is intended that the present disclosure not be limited to the particular embodiment(s) disclosed as the best mode contemplated, but that the disclosure will include all embodiments falling within the scope of the appended claims.

PARTS LIST

electrical box assembly 10	bent member 81	fastener 316
support 11	tab 82	embossment 375
electrical box 12	bent member 83	cutout 380
bracket 14	opening 84	tab 382
first bracket 14a	first flap 85	opening 384
second bracket 14b	second flap 86	fastener 500
hole 20	fastener 91	fastener 502
hole 22	stud 100	fastener 504
screws 24, 26	first stud 102	fastener 506
tab 28	second stud 104	second assembly 1100
grooves 30, 32	edge 105	support 1111
receptacles 34, 36	outer wall 106	first bracket 1114a
opening 38	sidewall 108	second bracket 1114b
first projection 40	brace assembly 200	flat blank 1500
latch 41	inner brace member 202	middle portion 1502
second projection 42	outer brace member 204	first outer strip 1504
hook portion 43	outer end support 206	second outer strip 1506
first brace connector 44	holes 207	notch 1508
connector portions 45	first outer rail 208	cutout 1510
second brace connector 46	second outer rail 210	angled portion 1512
connection portions 47	holes 211	middle straight portion 1514
first tab member 48	inner end support 212	straight strip portion 1516
first connection portion 49	holes 213	tab 1518
hole 50	first inner rail 214	notch 1520 cutout 1522
first extension portion 51	second inner rail 216	angled portion 1524
brace supports 52, 54	holes 217	middle straight portion 1526
bent member 56, 58	depression 219, 221	straight strip portion 1528
second tab member 60	fasteners 222	tab 1530
second connection portion 62	plate 300	notch 1532
second extension portion 64	plate body 302.	electrical box assembly 1900
hole 68	middle opening 304	assembly 1900a
brace support 70	tabs 305	electrical box 1912
first leg 71	holes 306	brackets 1914
second leg 73	openings 308	bracket 1914a
detents 74	prongs 309	bracket 1914b
embossment 75	holes 310	bracket 1914c
to screws 76	first flap 303	bracket 1914d
third leg 77	second flap 307	bracket 1914e
brace support 78	hole 312	bracket 1914f
fourth leg 79	hole 314	first leg 1971
cutout 80		second leg 1973

detents 1974	brace support 2178
third leg 1977	first gap 2180
fourth leg 1979	second gap 2182
member 1985	bent member 2183
assembly 2000	brace assembly 2300
first hole 2100	fasteners 2302
first horizontal oblong hole 2102	fastener 2500
a second hole 2104	side support 2502
first vertical oblong hole 2106	
third hole 2108	
fourth hole 2110	
diamond shaped hole 2112	
fifth hole 2114	
second vertical oblong hole 2116	
sixth hole 2118	
second horizontal oblong hole 2120	
seventh hole 2122	
first tab 2124	
second tab 2126	
apertures 2128, 2130	
first projection 2140	
second projection 2142	
first brace connector 2144	
second brace connector 2146	
first tab member 2148	
first connection portion 2149	
first extension portion 2151	
first hole 2150a	
second hole 2150b	
brace support 2152	
bridge portion 2154	
bent member 2156	
second tab member 2160	
second connection portion 2162	
second extension portion 2164	
first hole 2168a	
second hole 2168b	
bridge portion 2170	

CLAIMS

What is claimed is:

1. An electrical box assembly comprising:
 - an electrical box; and
 - a bracket connected to the electrical box, the bracket configured to mount the electrical box to a stud, a brace assembly, in a gang application, or, when the electrical box is a first electrical box and the bracket is a first bracket that is mounted to a first side of the stud, a second bracket connected to a second electrical box can be mounted to a second side of the stud at the same time that the first bracket is mounted to the first side of the stud so that at least a portion of the first bracket is at the same height of at least a portion of the second bracket on the stud.
2. The electrical box assembly of claim 1, wherein the bracket has a first leg that is connected to the electrical box.
3. The electrical box assembly of claim 1, wherein the bracket has a first connector being connectable to a brace.
4. The electrical box assembly of claim 3, wherein the first connector has a brace support that is extendible around the brace assembly.
5. The electrical box assembly of claim 4, wherein the brace support has a bent member.
6. The electrical box assembly of claim 1, wherein the bracket has a member being connectable to a stud, another electrical box assembly or structure.
7. The electrical box assembly of claim 6, wherein the member has a first tab and a second tab.
8. The electrical box assembly of claim 7, wherein the member has a first aperture and a second aperture.
9. The electrical box assembly of claim 8, wherein the electrical box assembly is a first electrical box assembly that is connectable to a second electrical box assembly having a

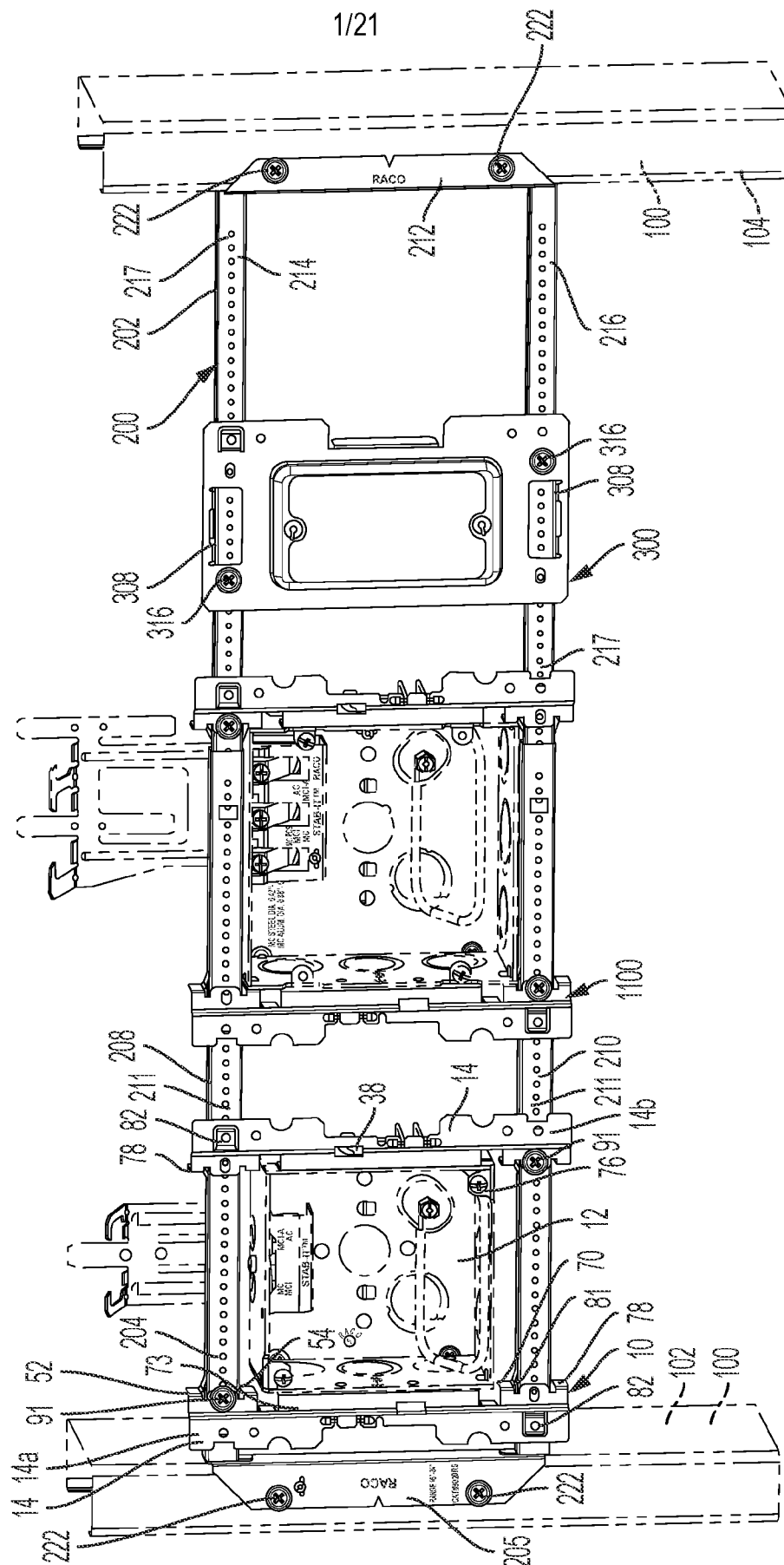
bracket that is the same as the bracket of the first electrical box assembly so that the first tab of the first electrical box assembly fits in one of the first aperture and the second aperture of the second electrical box assembly and the second tab of the first electrical box assembly fits in another of the first aperture and the second aperture of the second electrical box assembly.

10. A mounting bracket for supporting an electrical box comprising:
 - a first leg being connectable to an electrical box;
 - a member being connectable to a stud, another electrical box assembly or structure;
 - and
 - a first connector being connectable to a brace assembly.
11. The mounting bracket of claim 10, wherein the first connector has a brace support that extends around a brace assembly.
12. The mounting bracket of claim 11, wherein the brace support has a bent member.
13. The mounting bracket of claim 10, further comprising a second connector being at an opposite end of the mounting bracket than the first connector.
14. The mounting bracket of claim 13, wherein each of the first connector and the second connector has a brace support that each extend around the brace assembly.
15. The mounting bracket of claim 14, wherein each of the first connector and the second connector has a hole to receive a fastener to connect the mounting bracket to the brace assembly.
16. The mounting bracket of claim 10, further comprising a member being connectable to the stud, the another electrical box assembly or structure.
17. The mounting bracket of claim 16, wherein the member has a first tab, a second tab, a first aperture and a second aperture.
18. A flat blank for a brace comprising:
 - a middle portion connected between a first strip and a second strip, a first cutout being

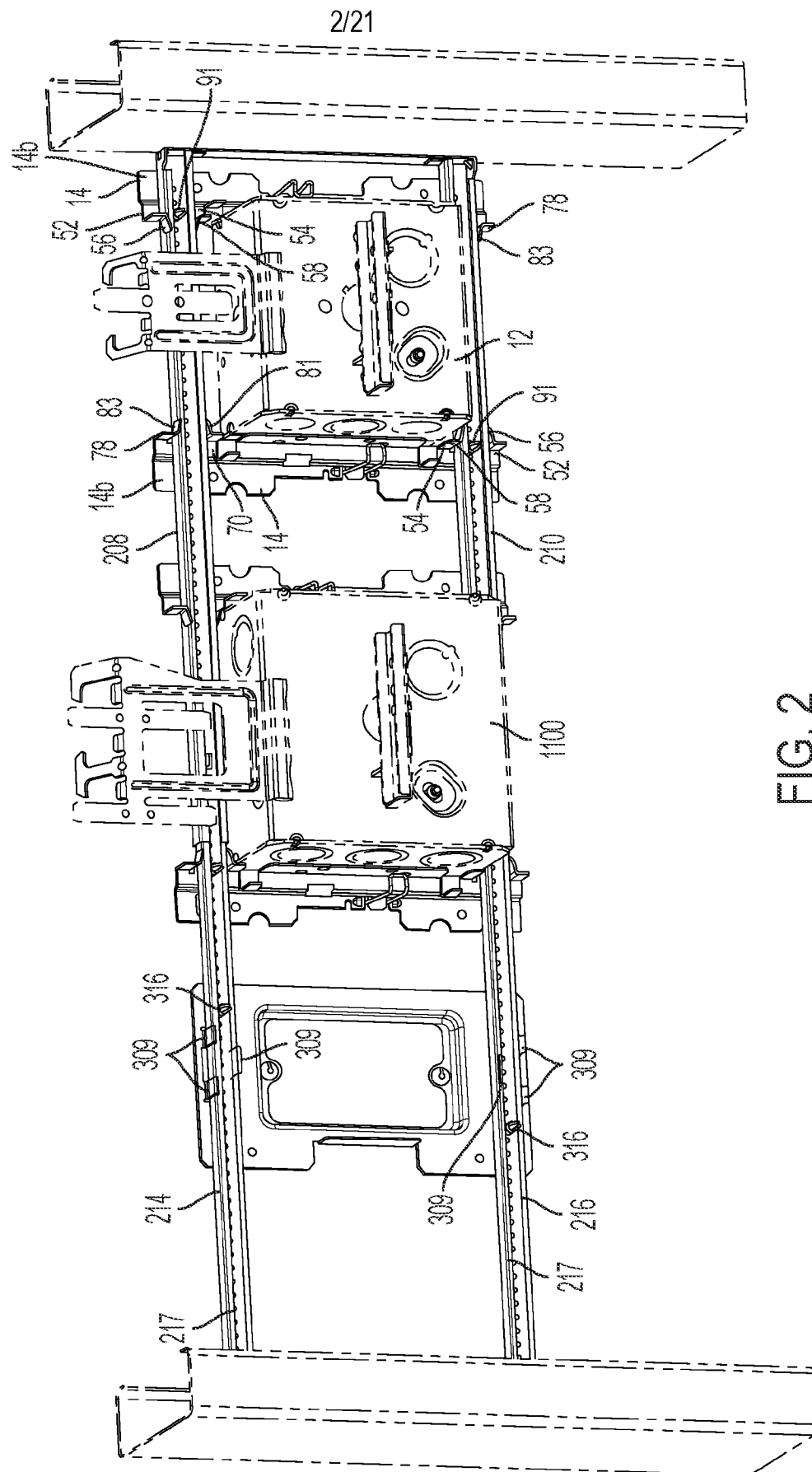
formed between the first strip and the middle portion, and a second cutout being between the second strip and the middle portion.

19. The flat blank of claim 18, wherein the flat blank is trimmed less than or equal to 3 percent of a material forming the flat blank.

20. The flat blank of claim 18, wherein the flat blank is free from scraping.



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$$\frac{2}{G} \frac{1}{L}$$

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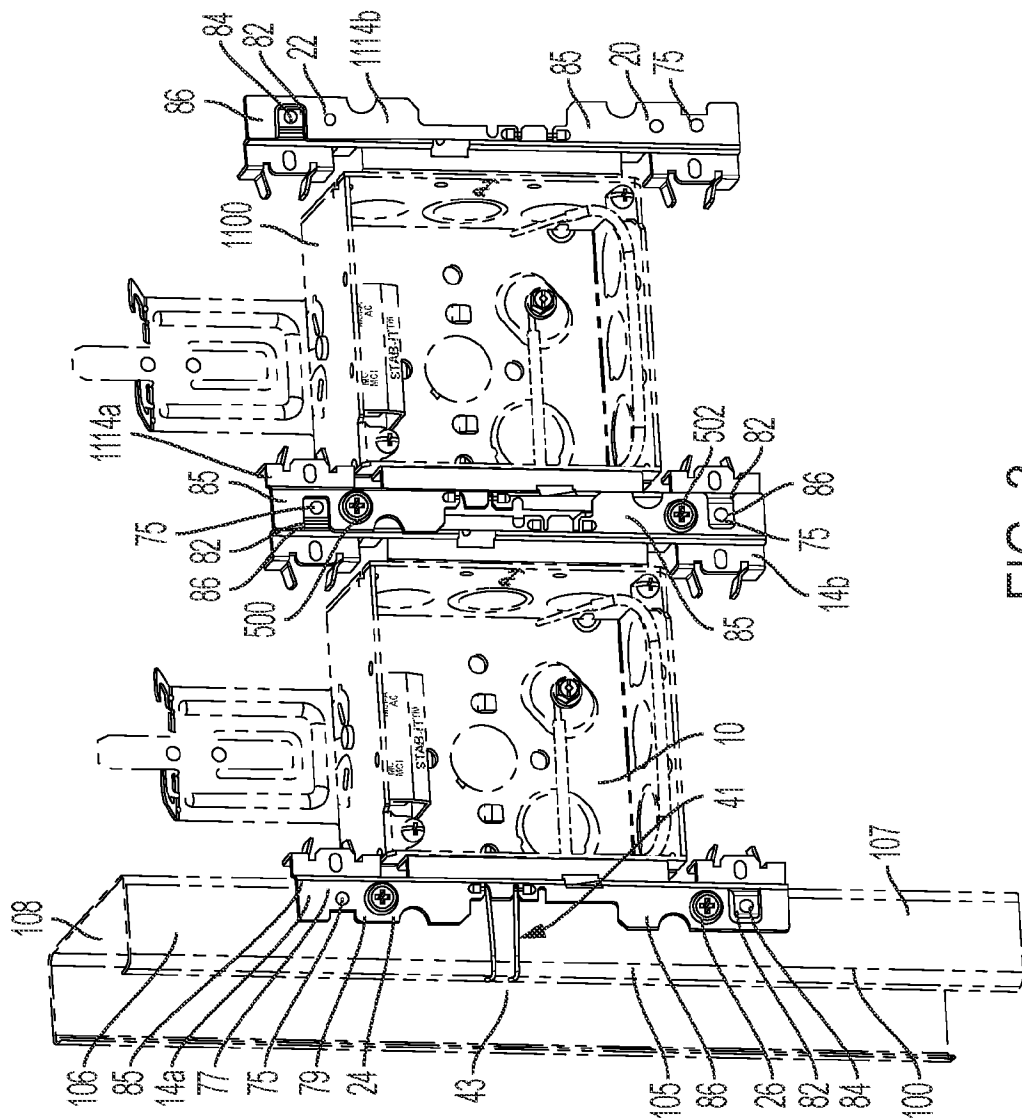
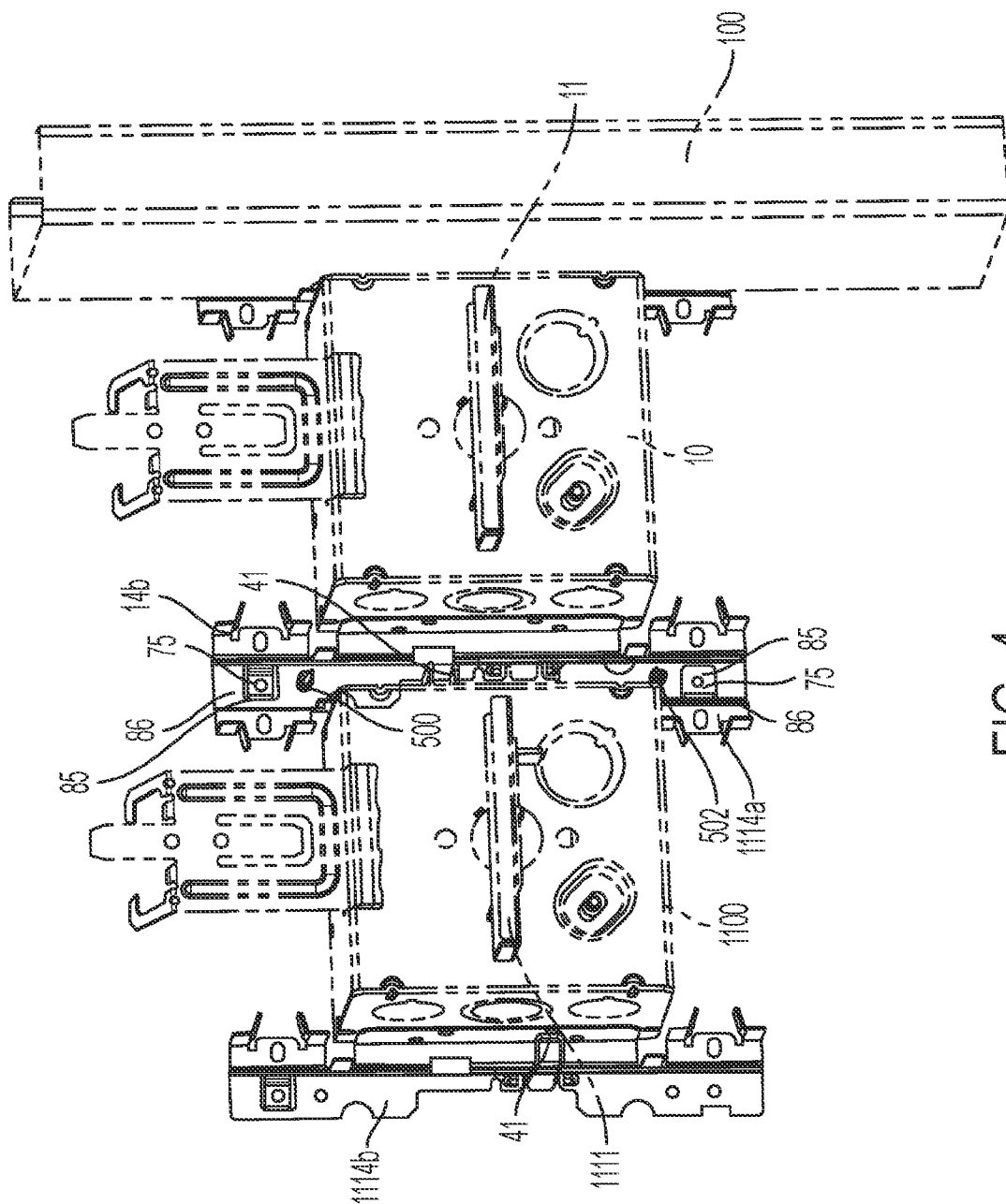


FIG. 3



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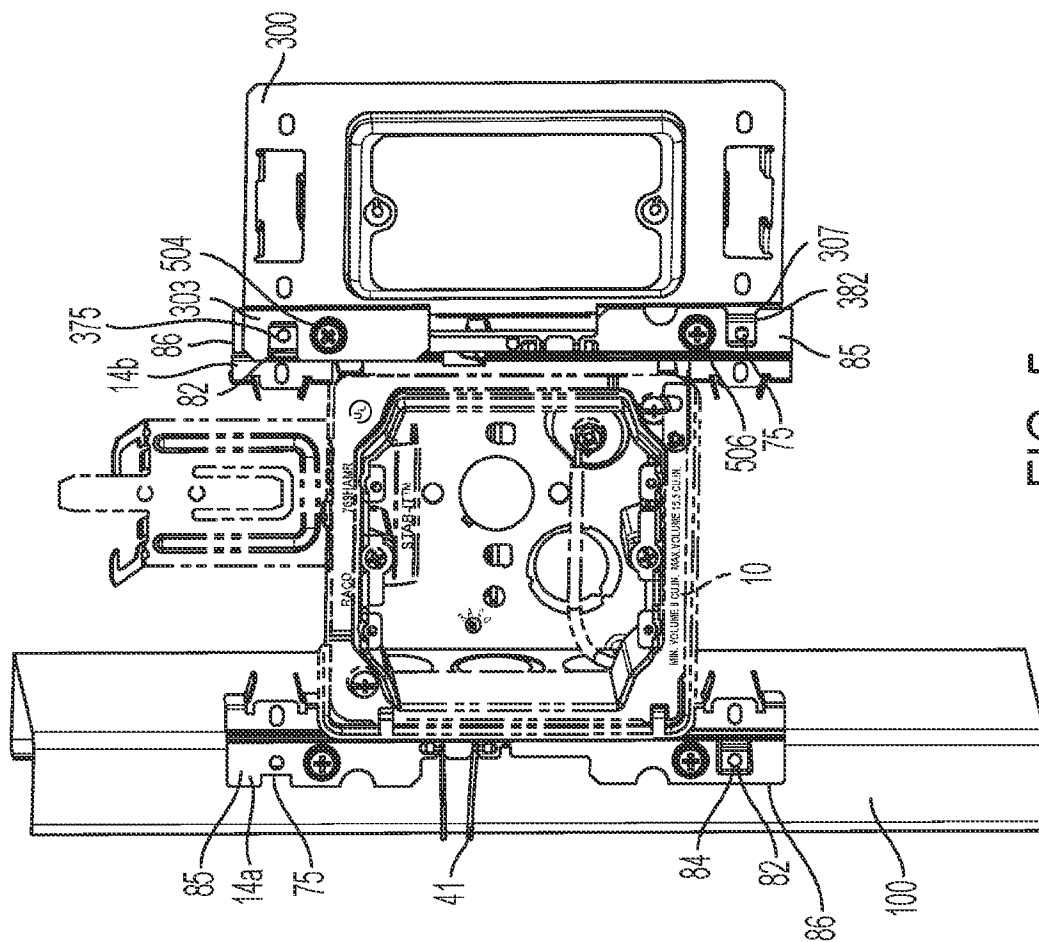


FIG. 5

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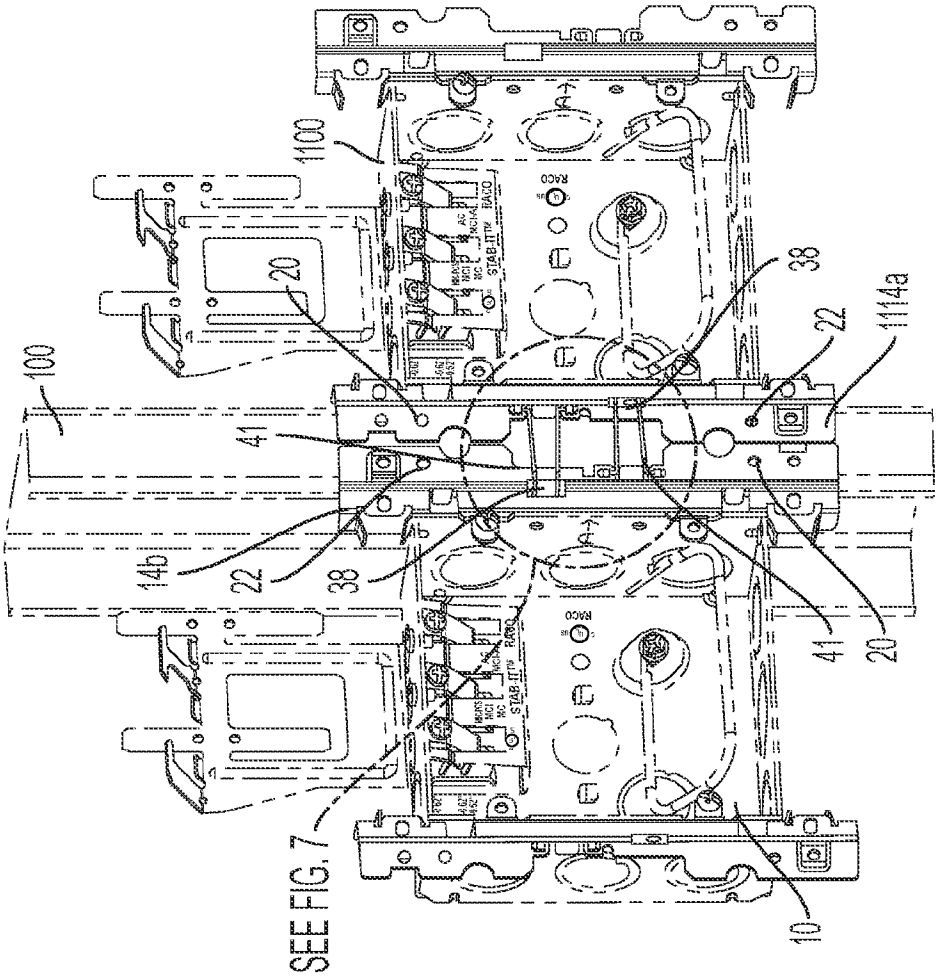


FIG. 6

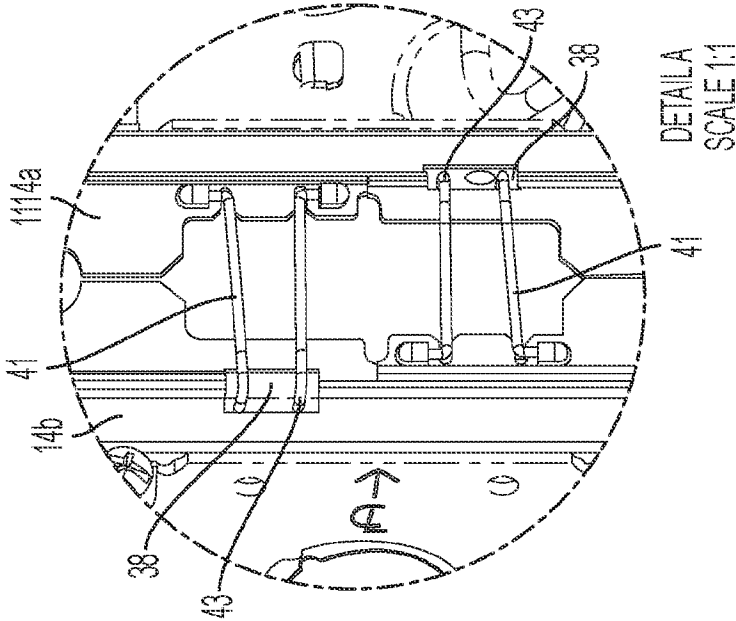


FIG. 7

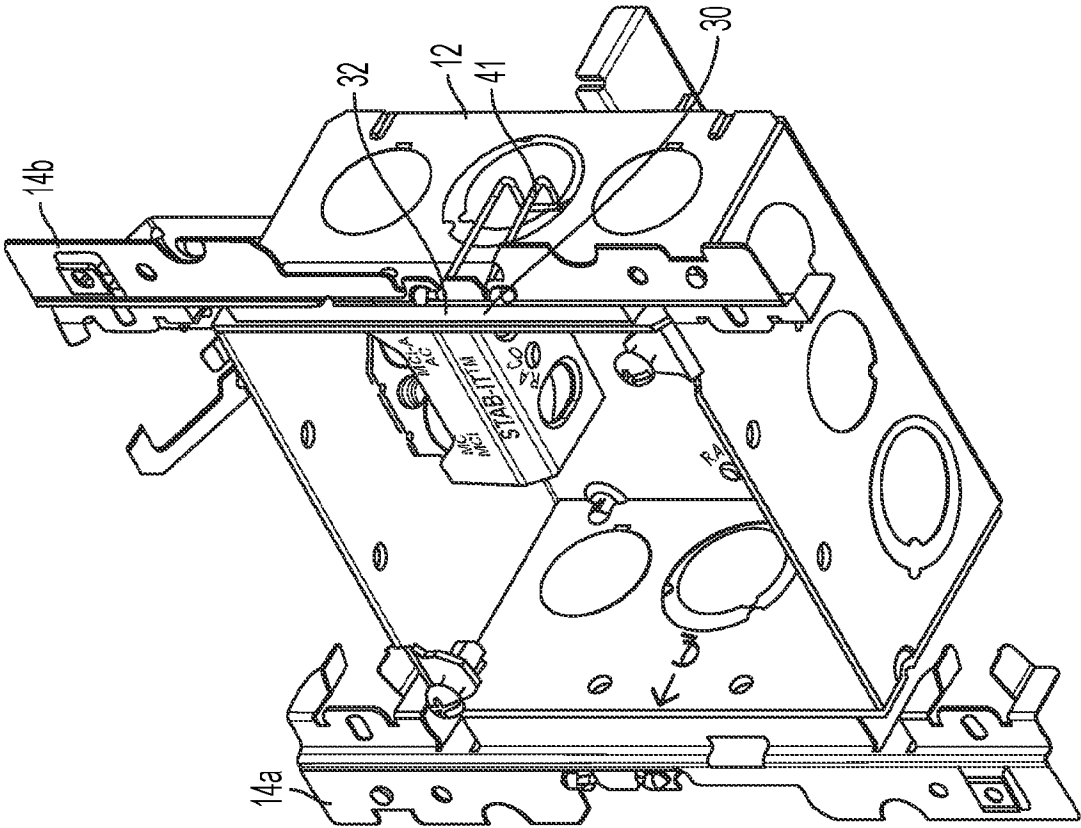


FIG. 8

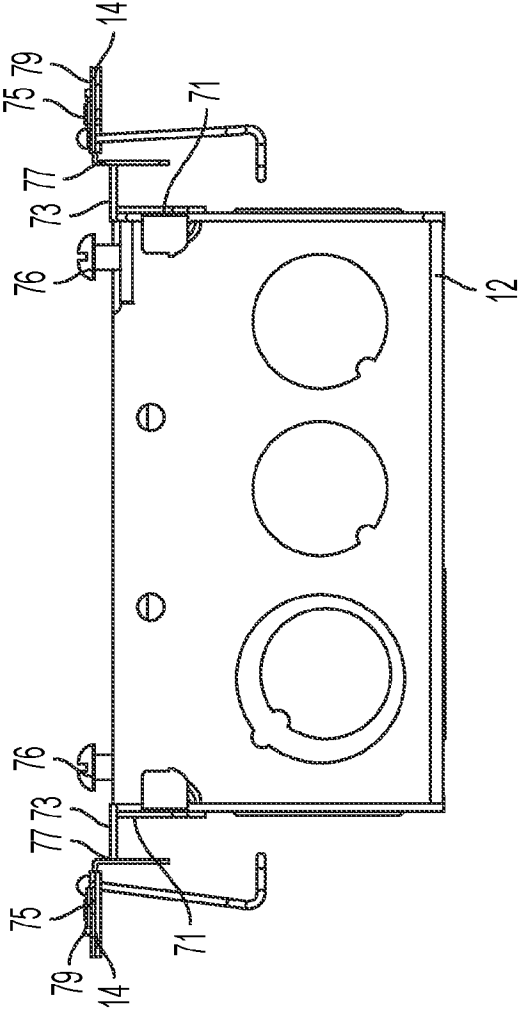


FIG. 9

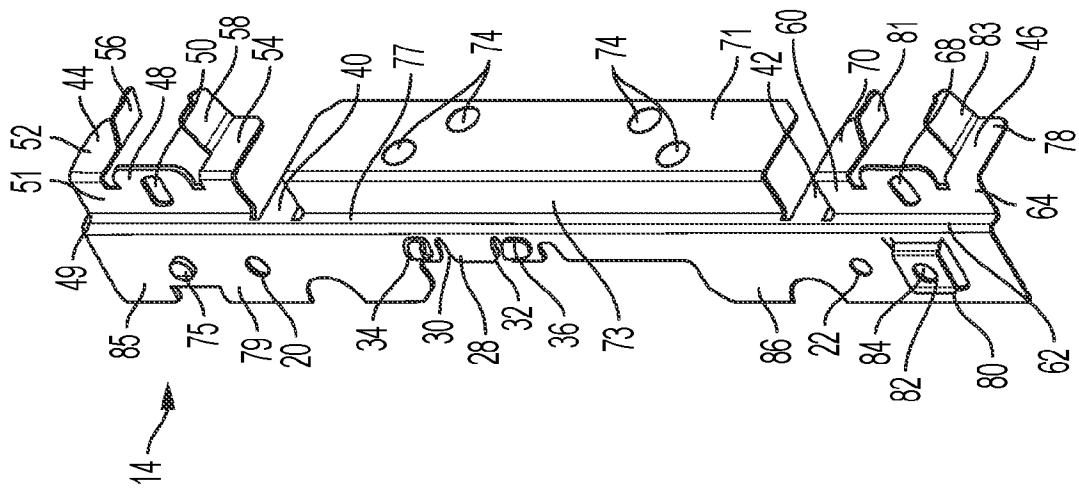


FIG. 10

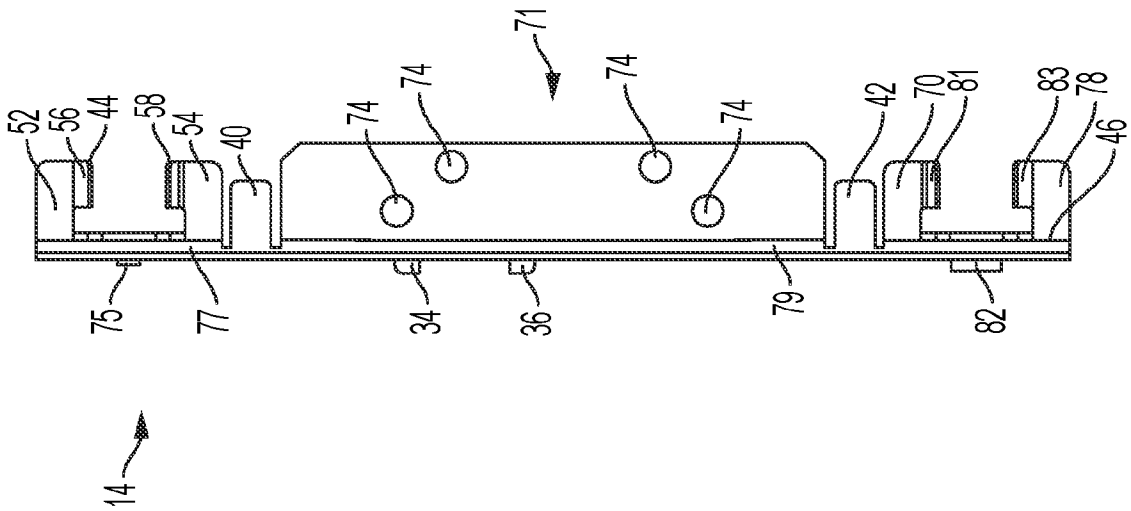


FIG. 11

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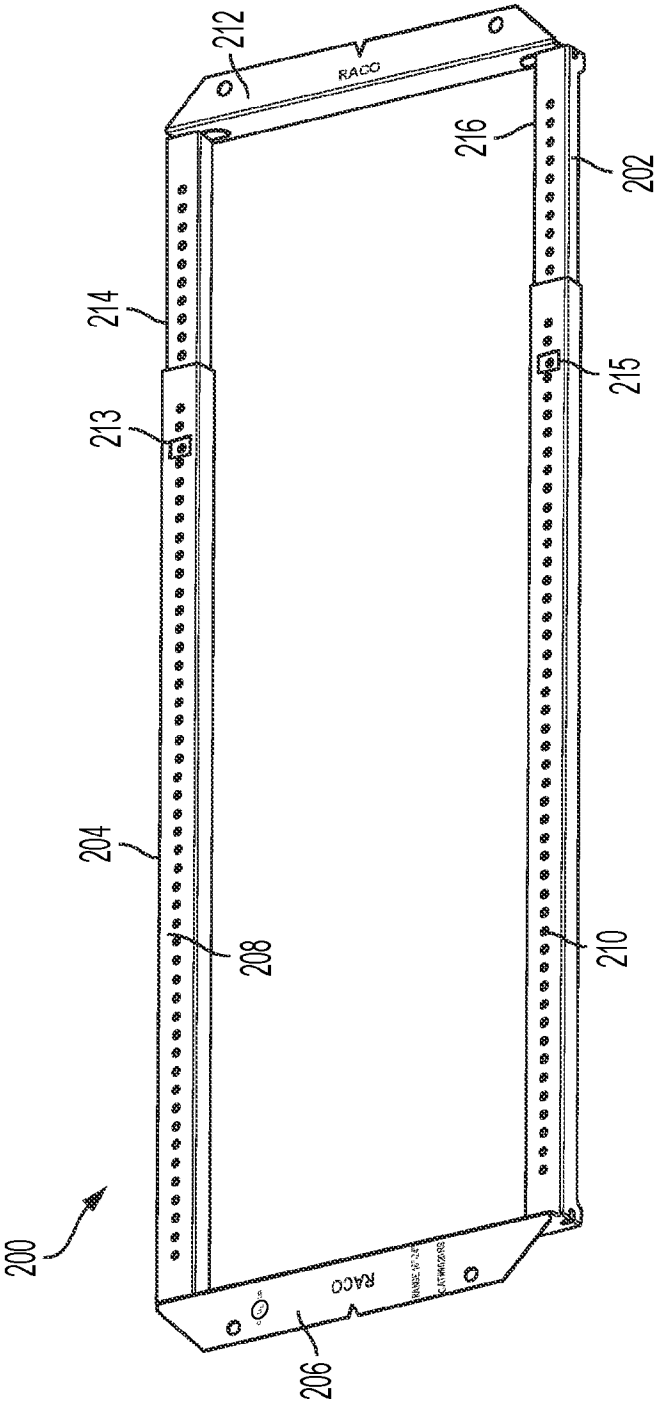


FIG. 12

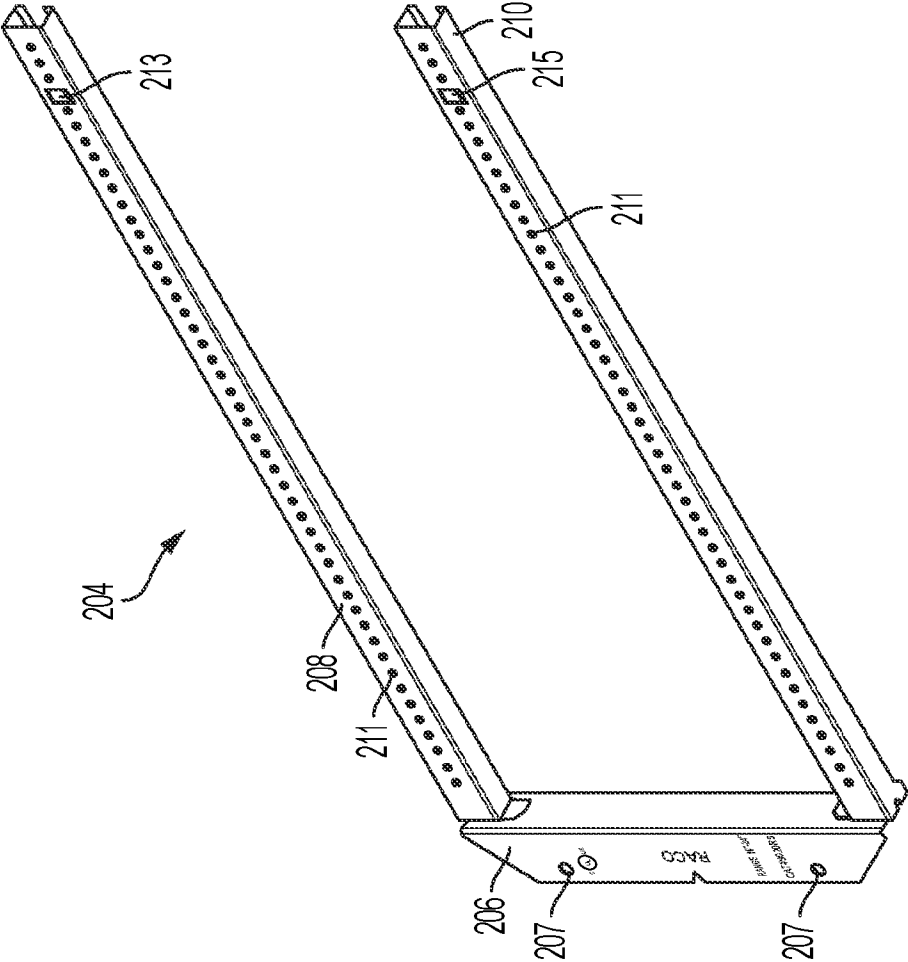


FIG. 13

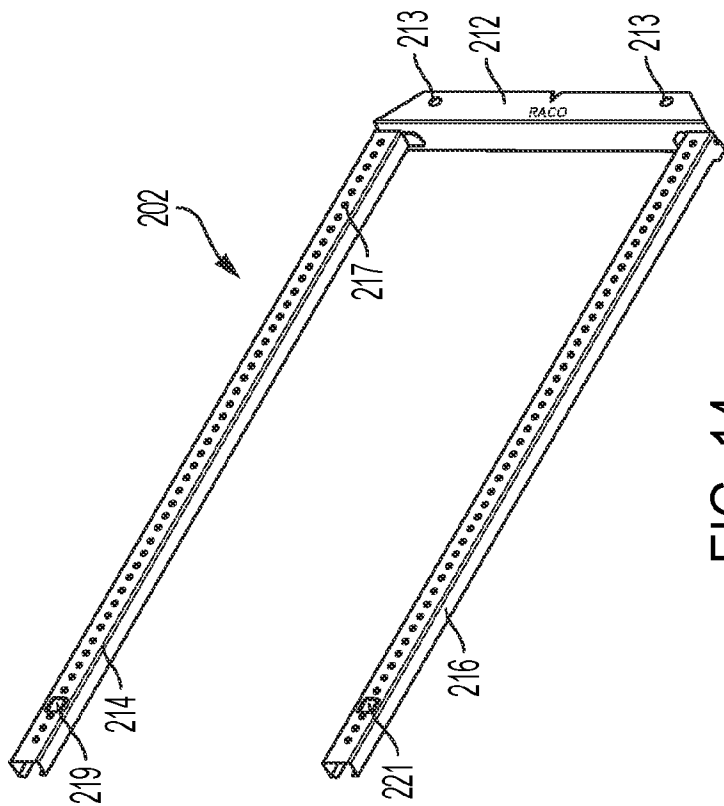
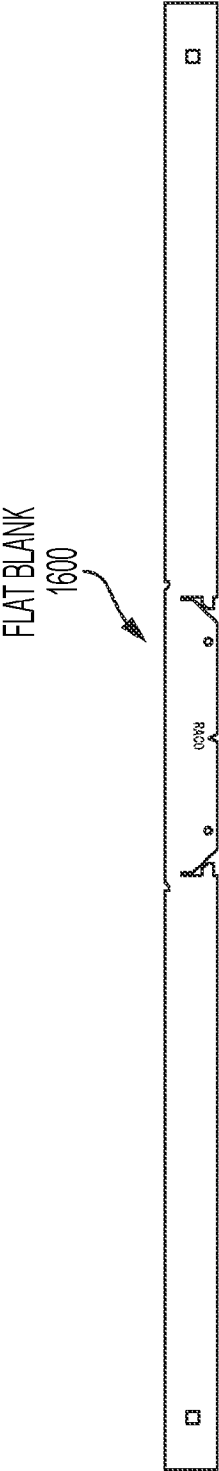
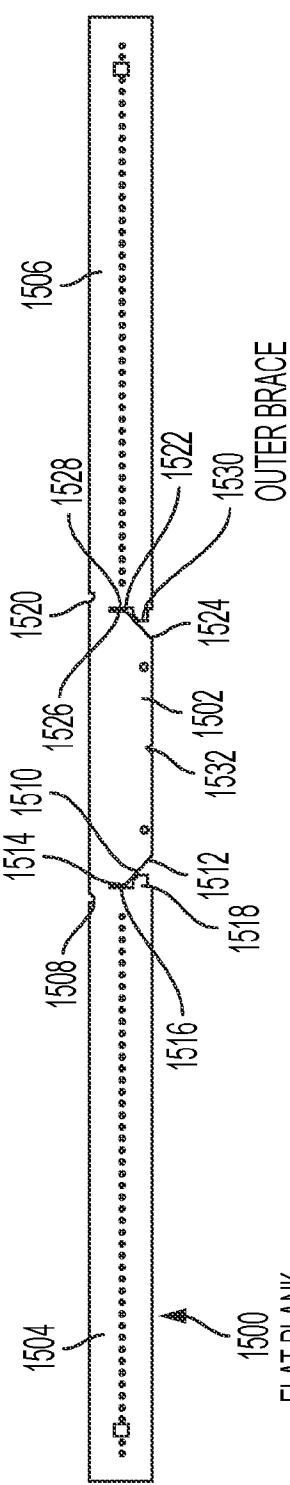


FIG. 14



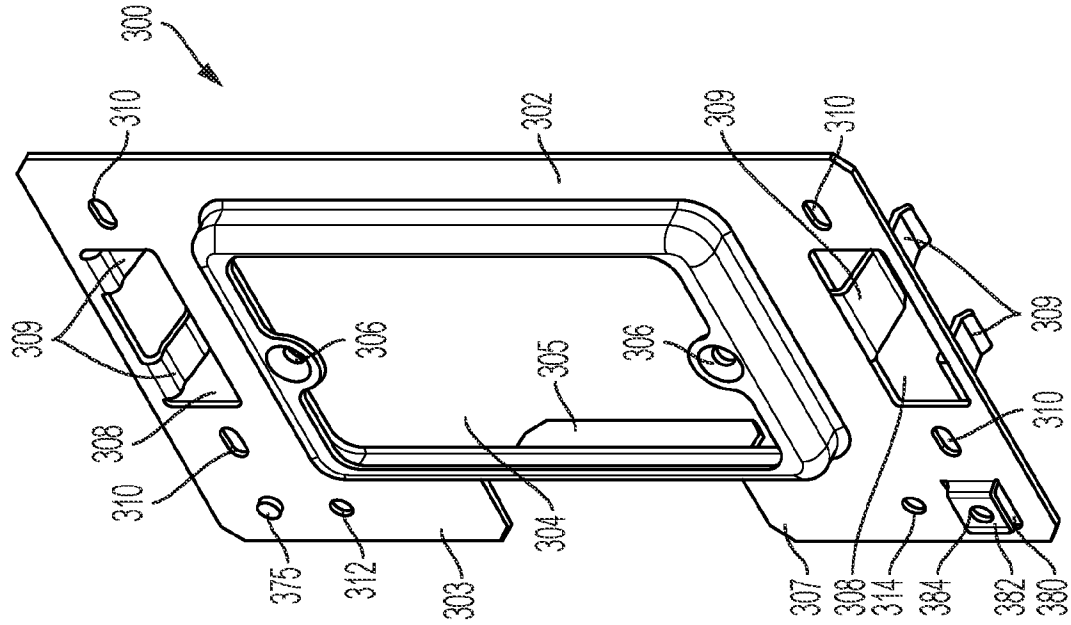


FIG. 17

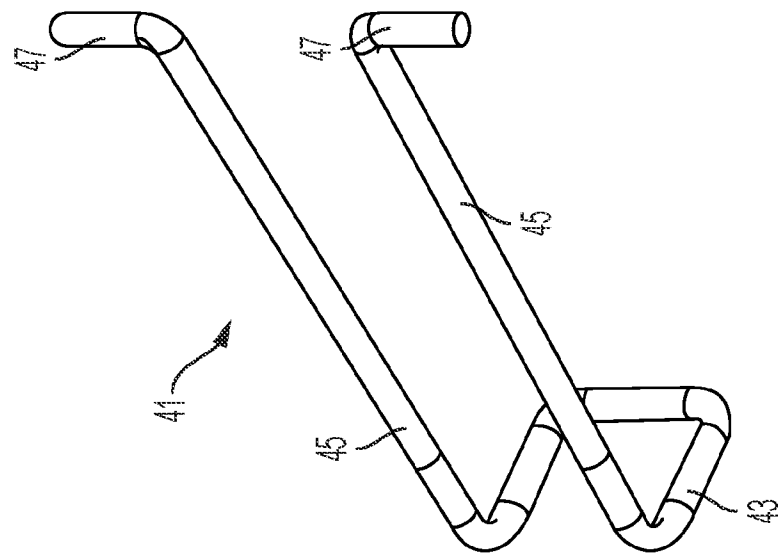


FIG. 18

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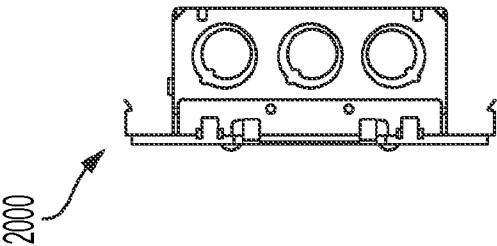


FIG. 21

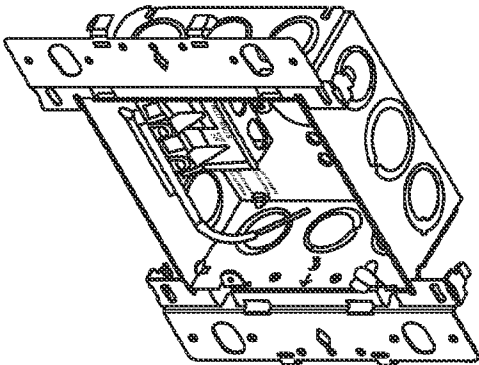


FIG. 20

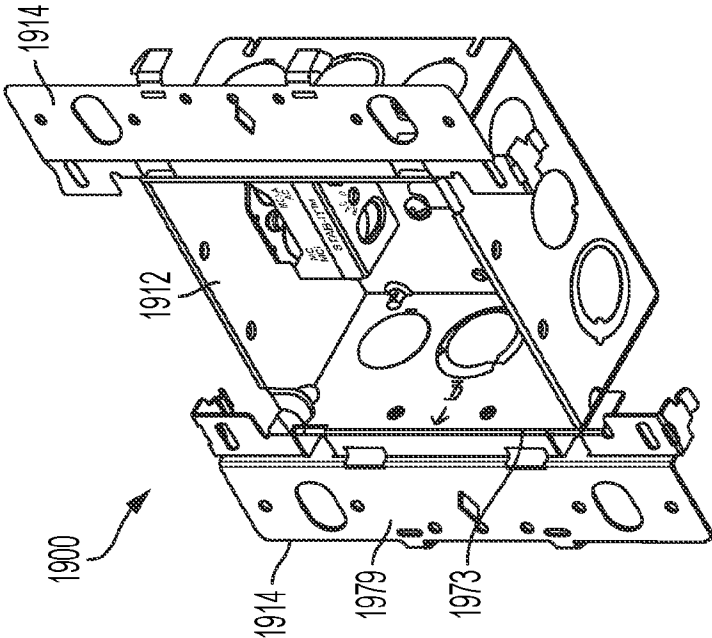


FIG. 19

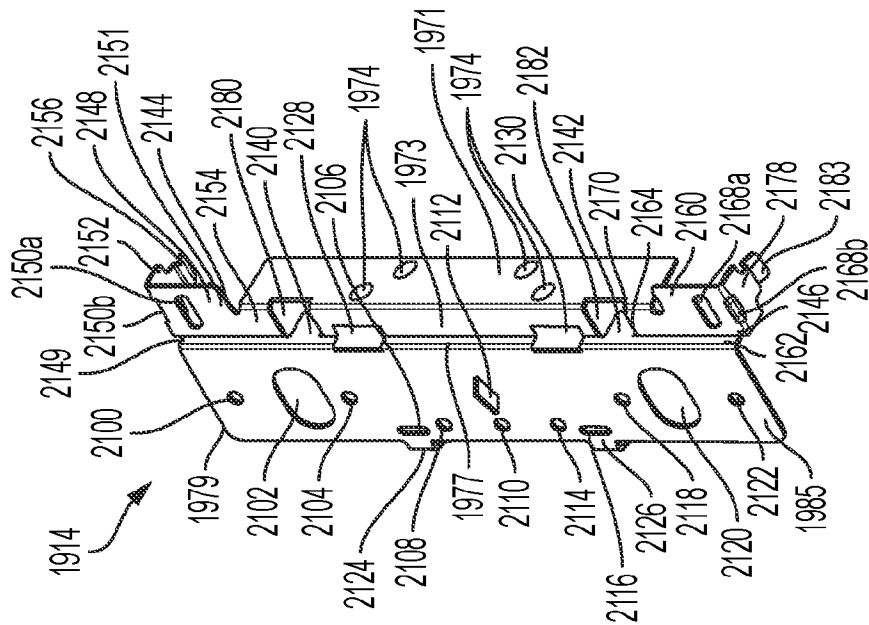
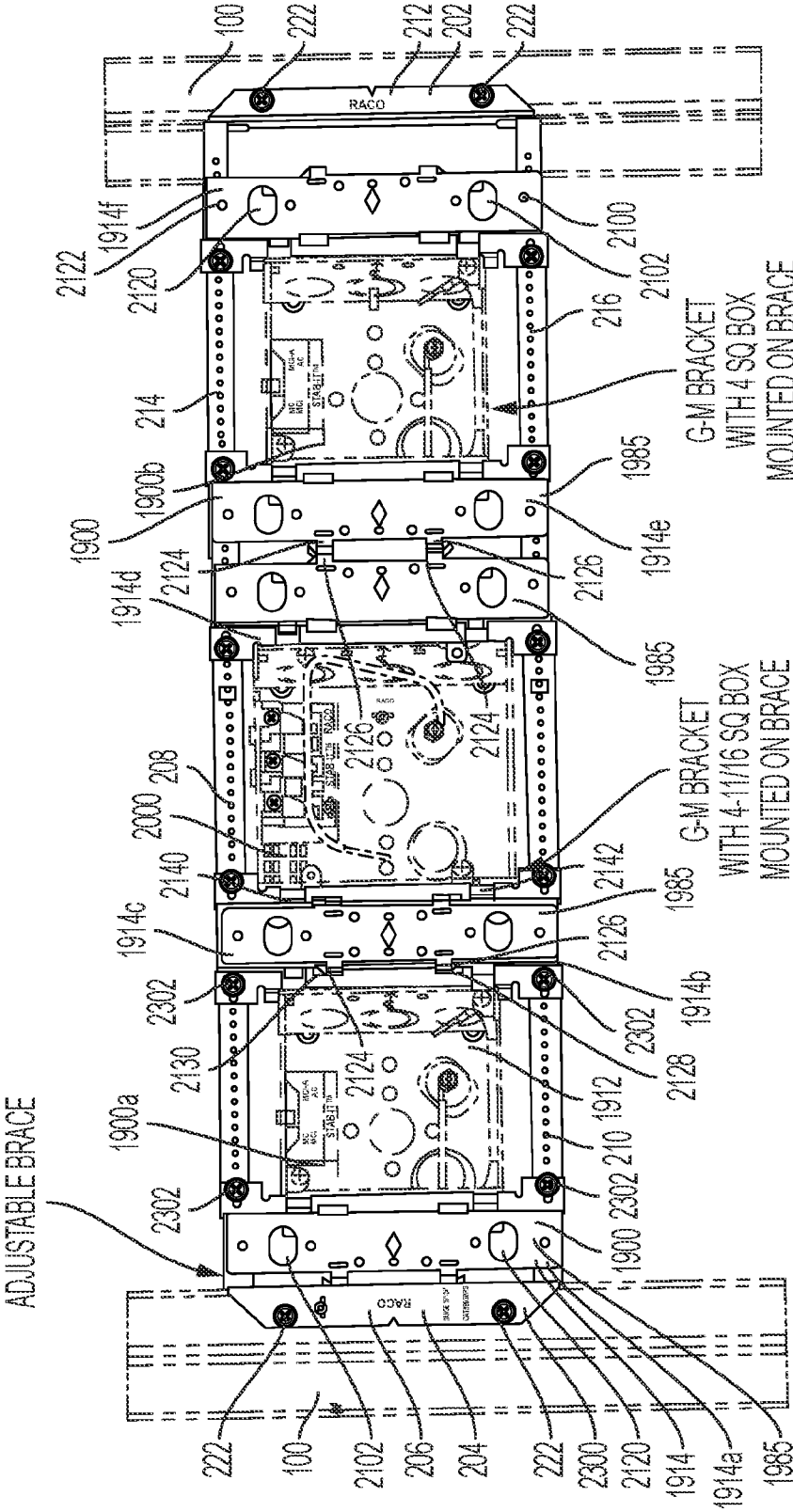
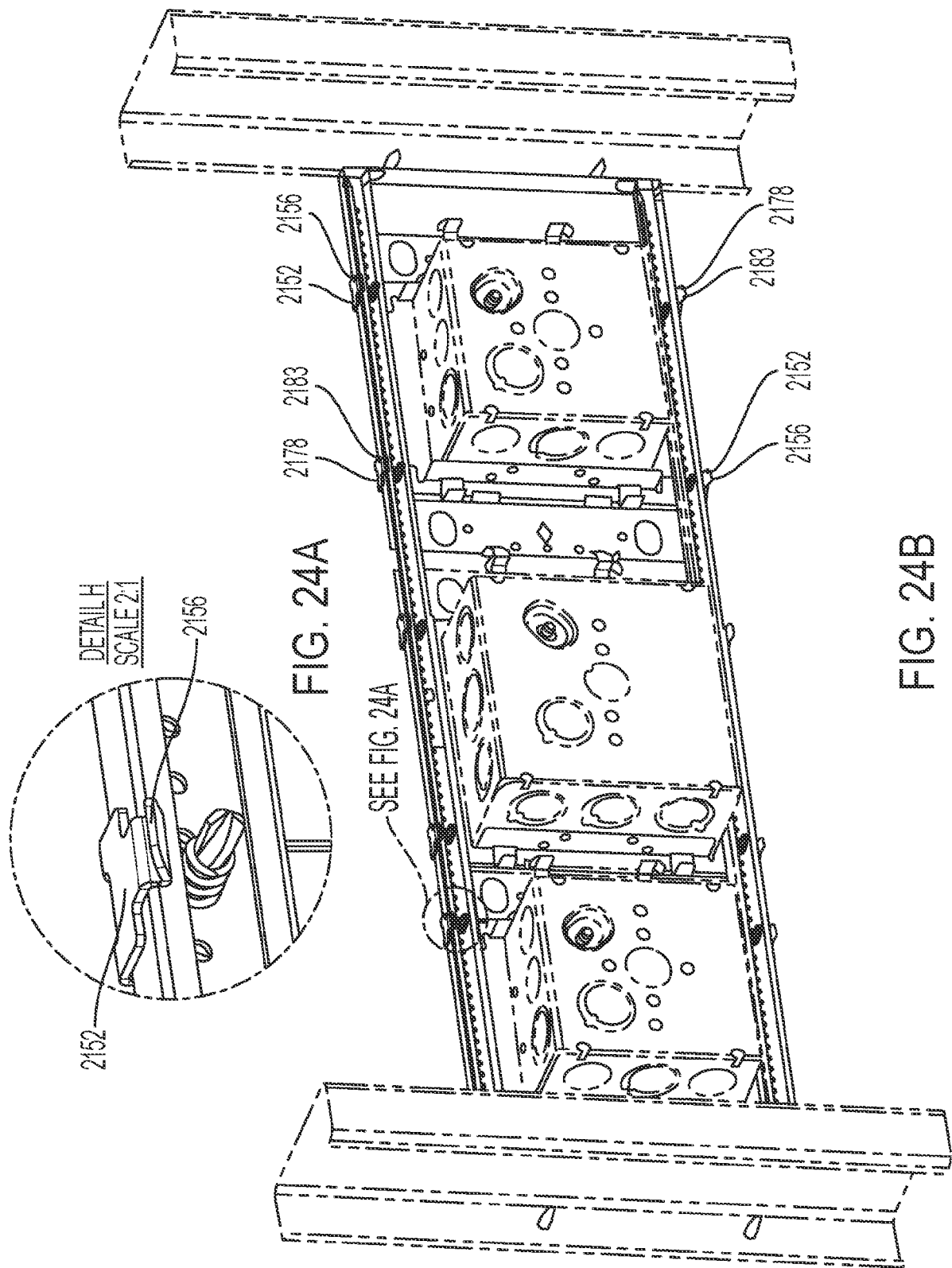


FIG. 22





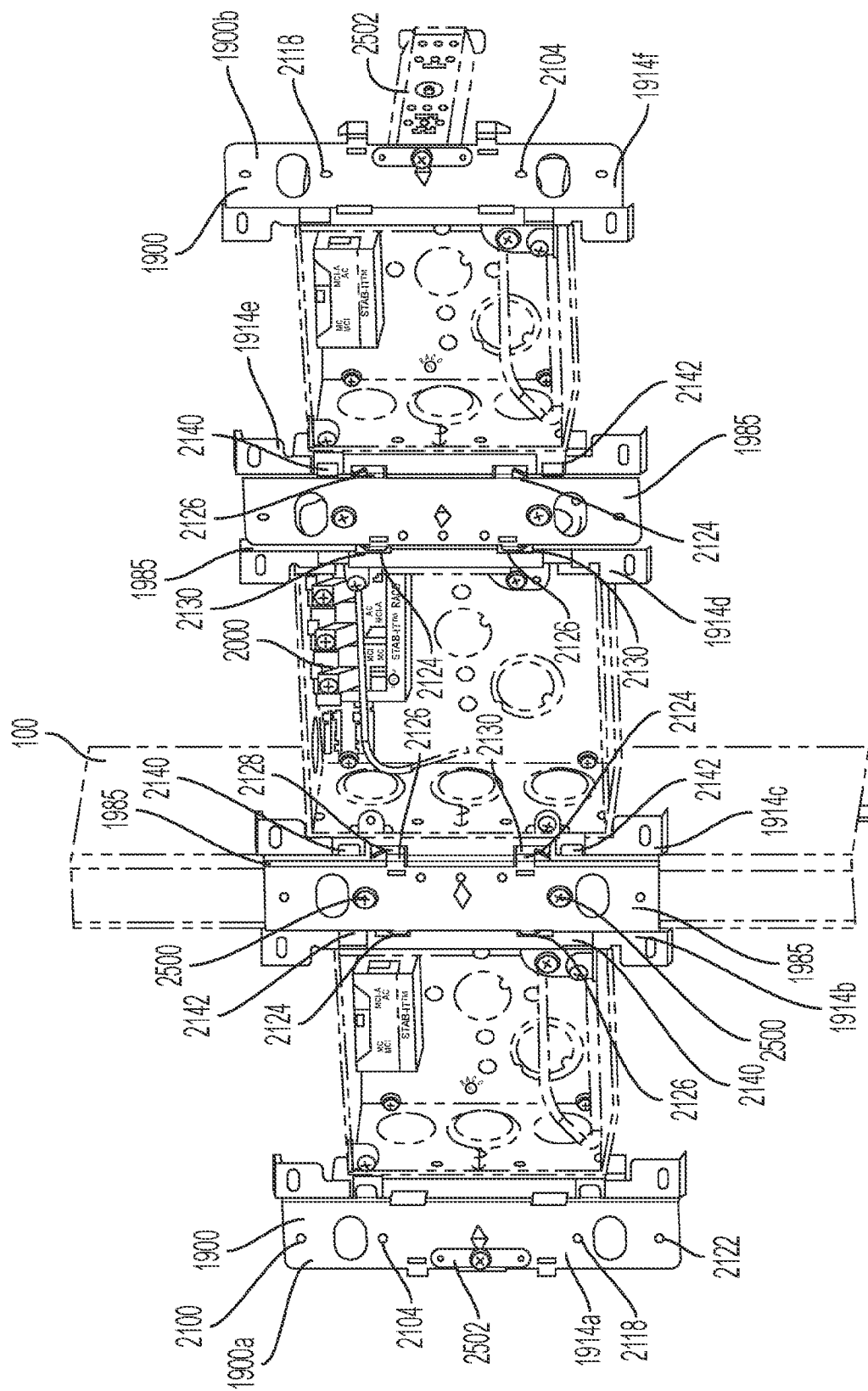


FIG. 25

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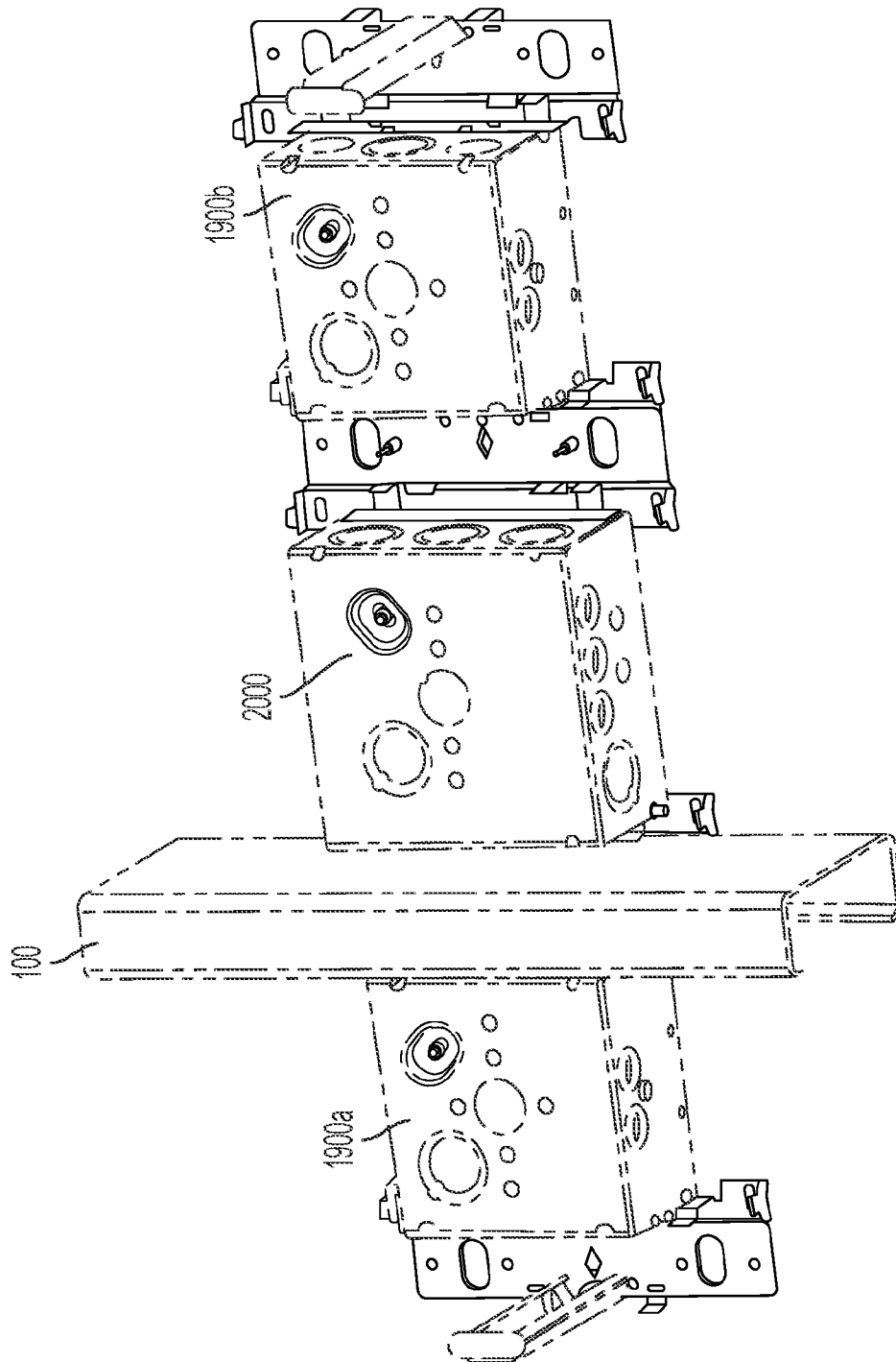


FIG. 26