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(54) **WALL-MOUNT ADJUSTMENT SYSTEMS AND METHODS**

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(60) Provisional application No. 61/325,112, filed on Apr. 16, 2010, provisional application No. 60/825,162, filed on Sep. 11, 2006, provisional application No. 60/950,237, filed on Jul. 17, 2007.

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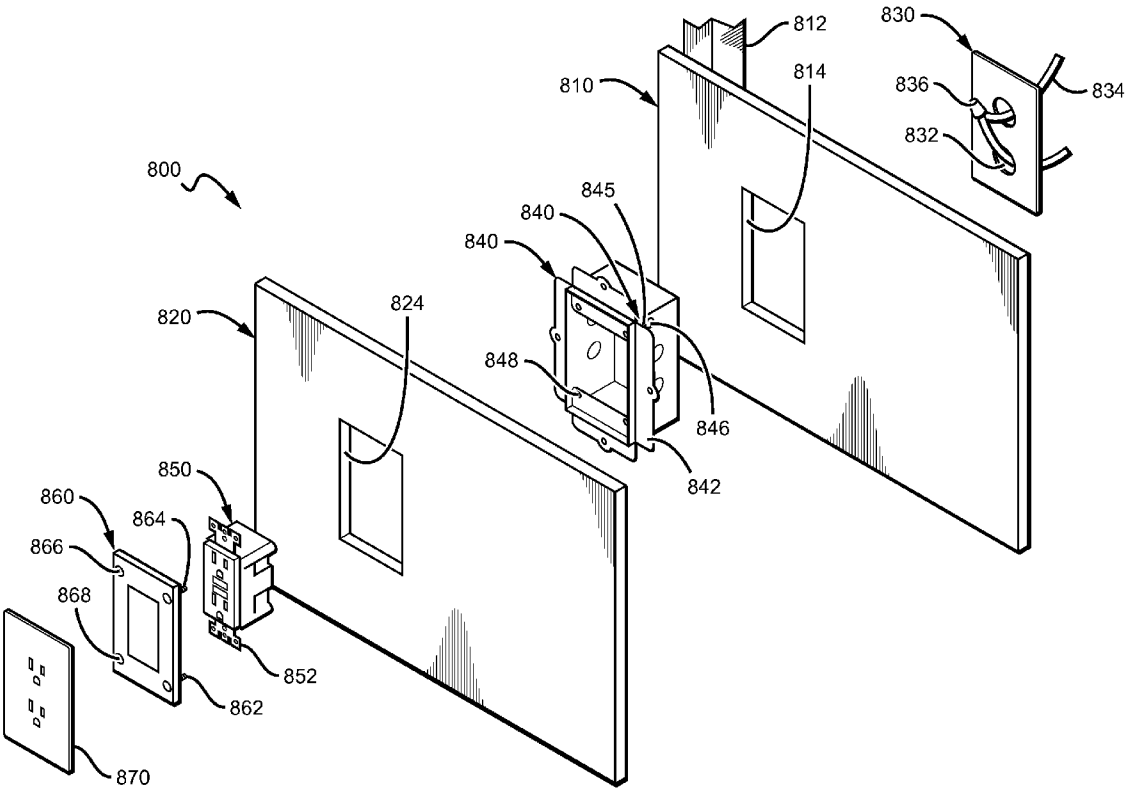
(57) **ABSTRACT**

An in-wall component is installed in a partition by attaching the wall component to a bracket mounted to a hole in the partition. The component is slightly recessed from the front of the partition to create a slight recess between the front of the partition and the front of the component. A component leveler could then be attached to the bracket to cover the in-wall component, providing a mount that is substantially flush to the wall. The component leveler has several adjustment mechanisms that operate independently of one another to adjust an angular depth of the component leveler to ensure that the edges of the component leveler are perfectly flush with the front of the partition.



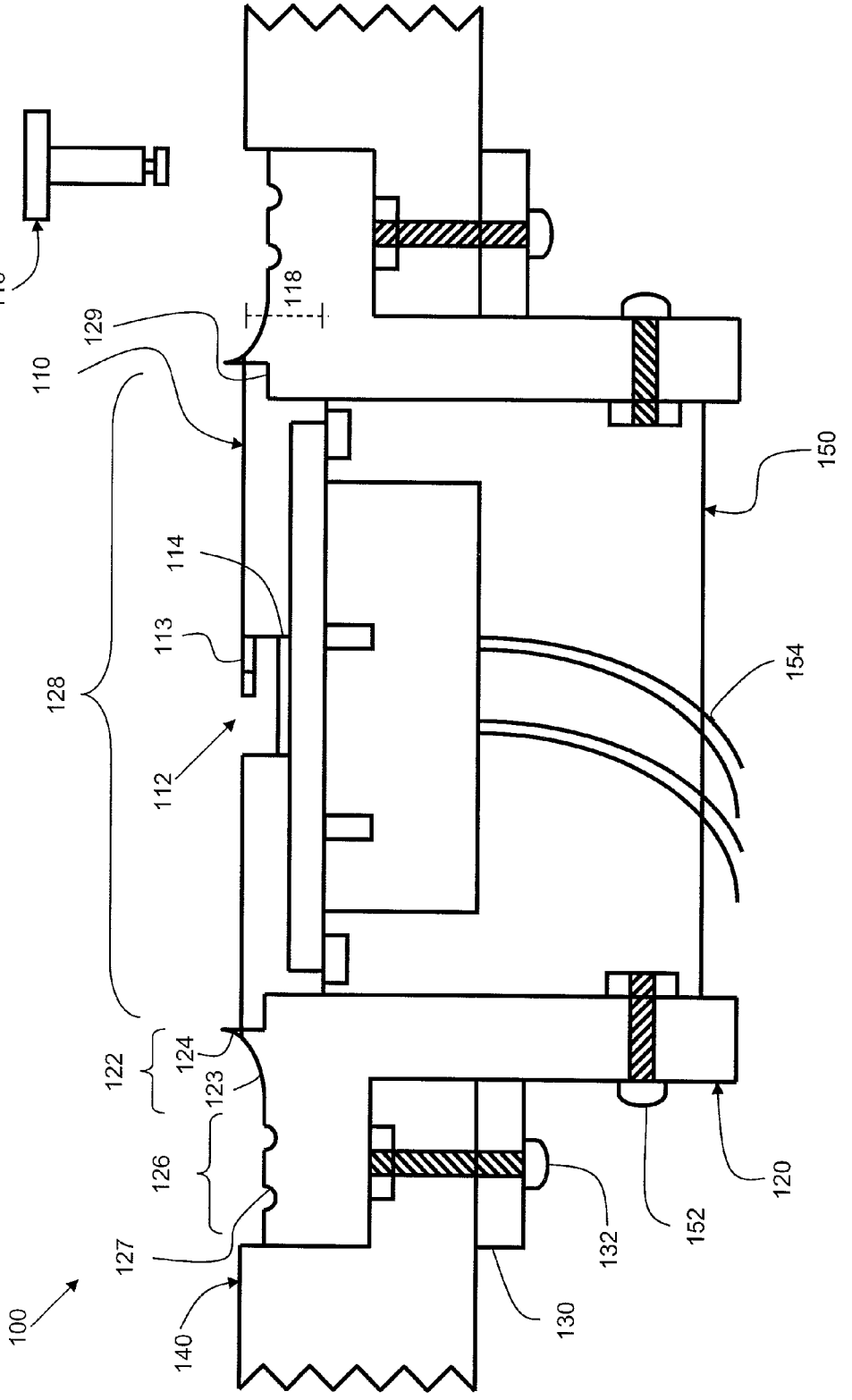

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Fig. 1

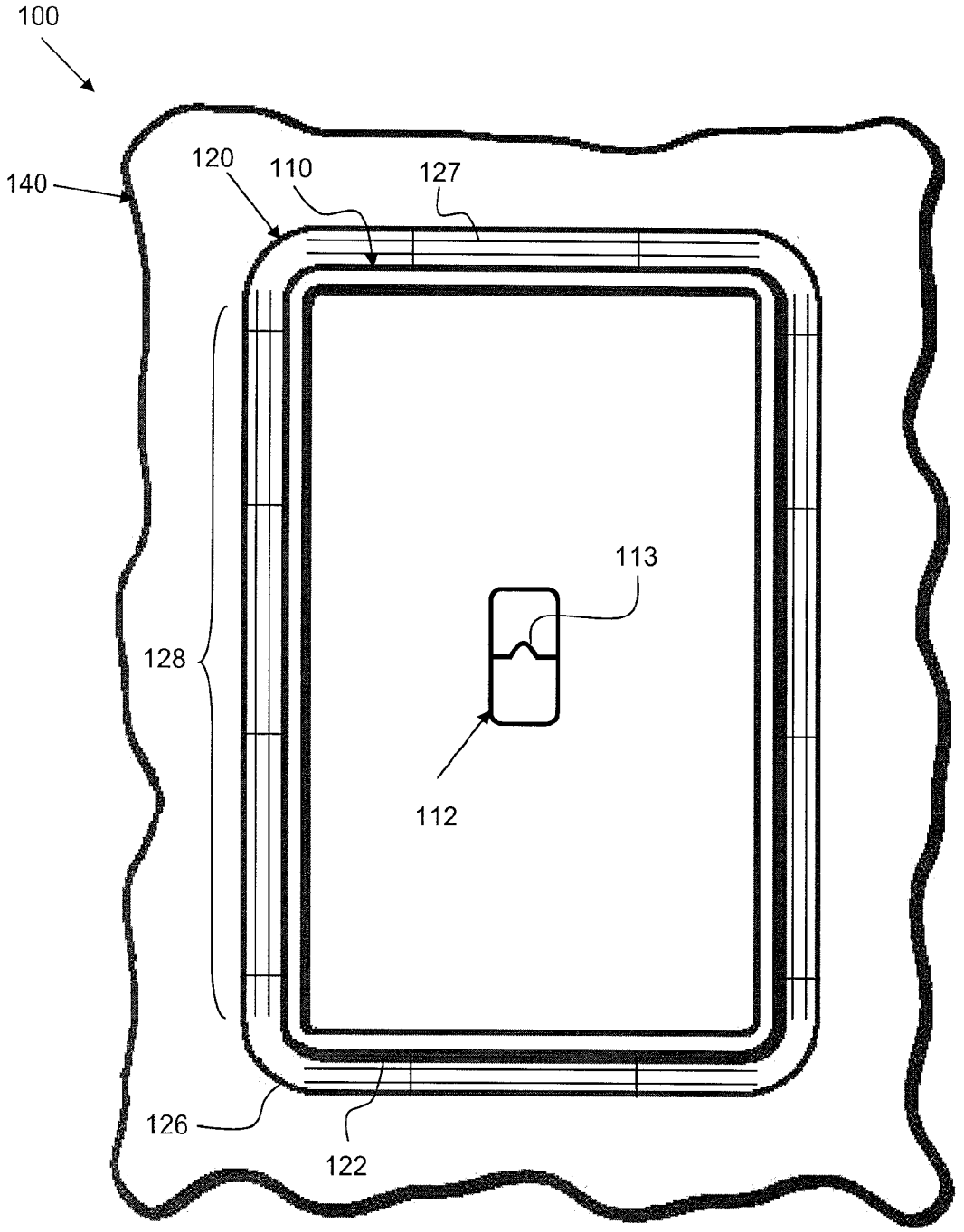


Fig. 2

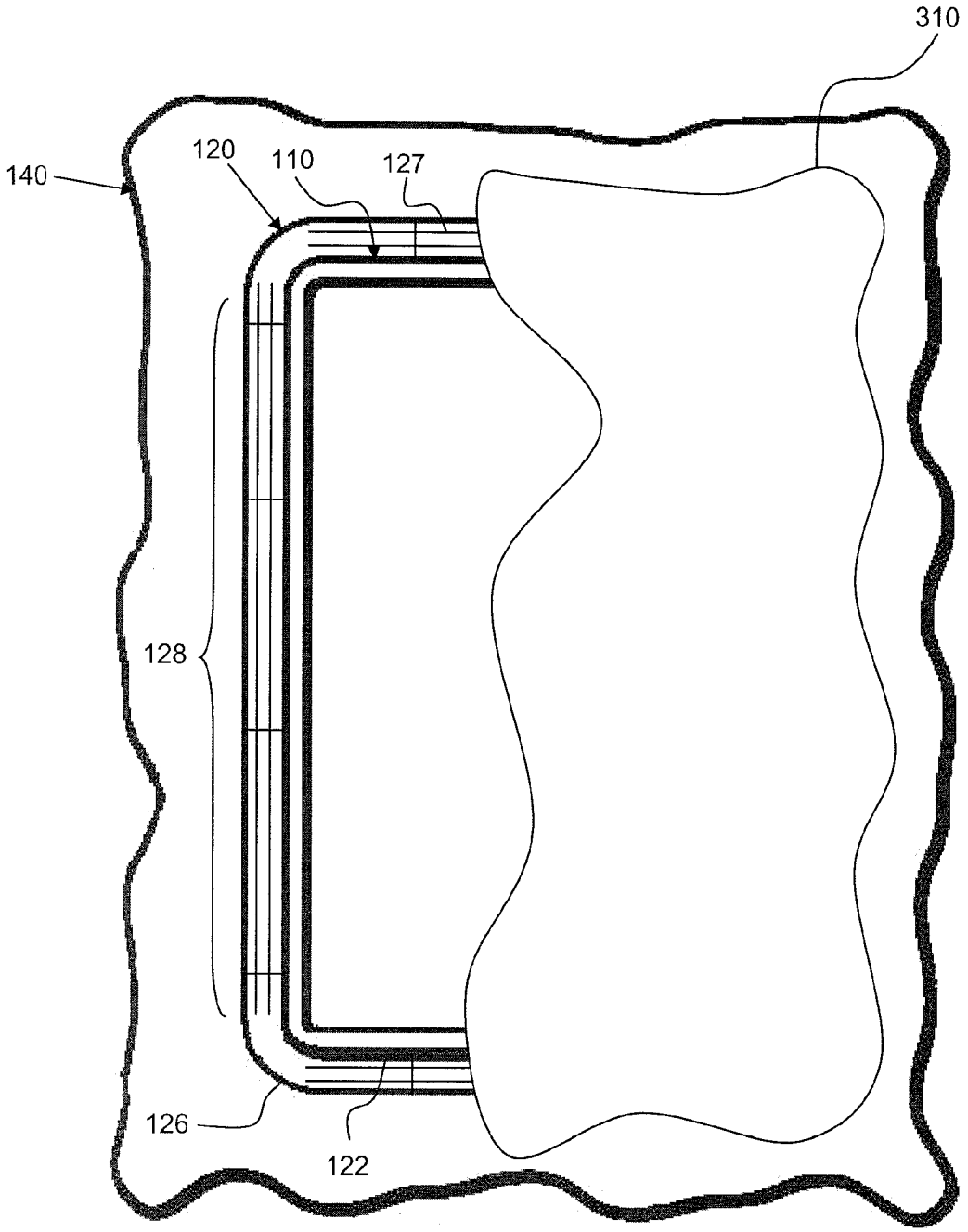


Fig. 3

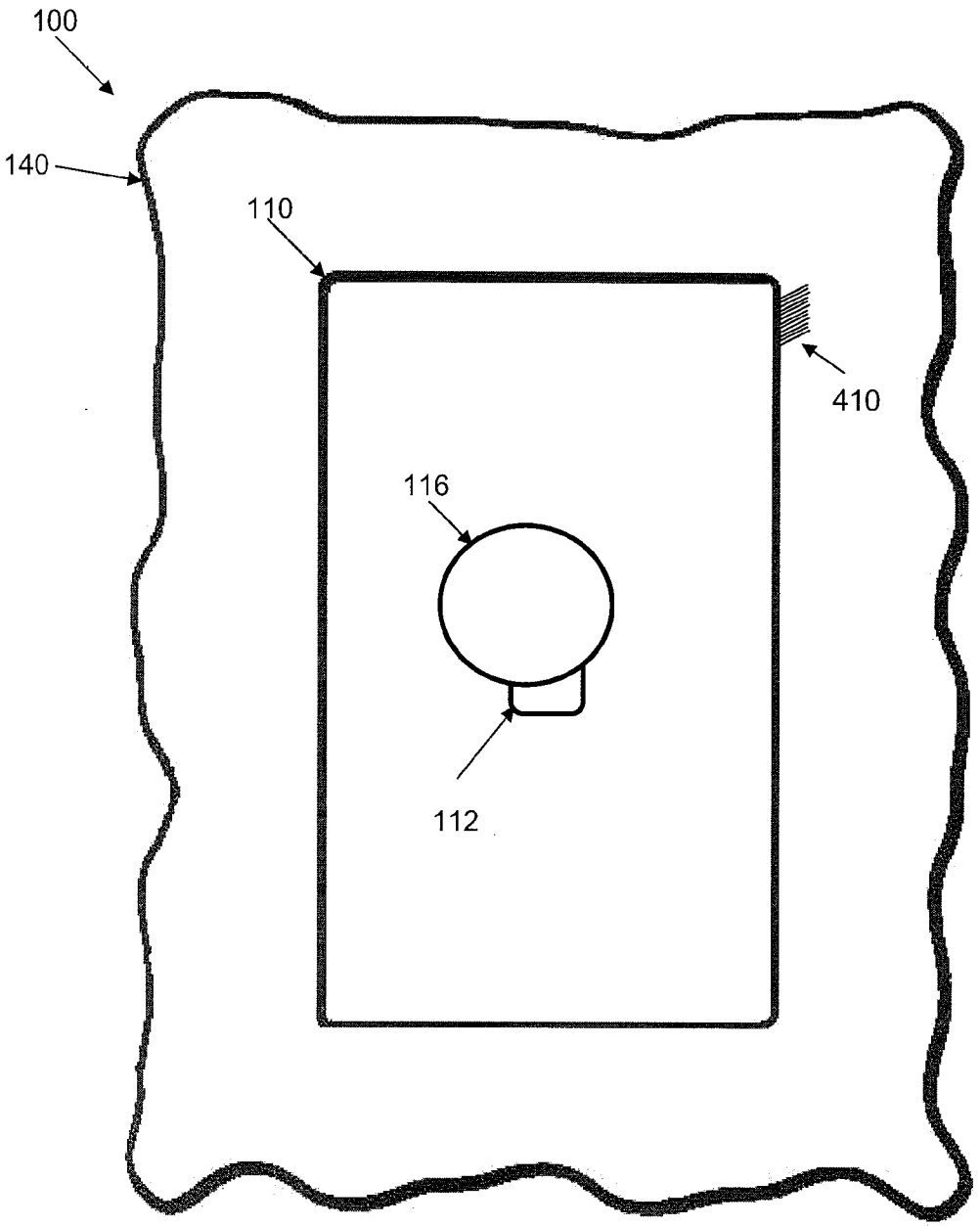


Fig. 4

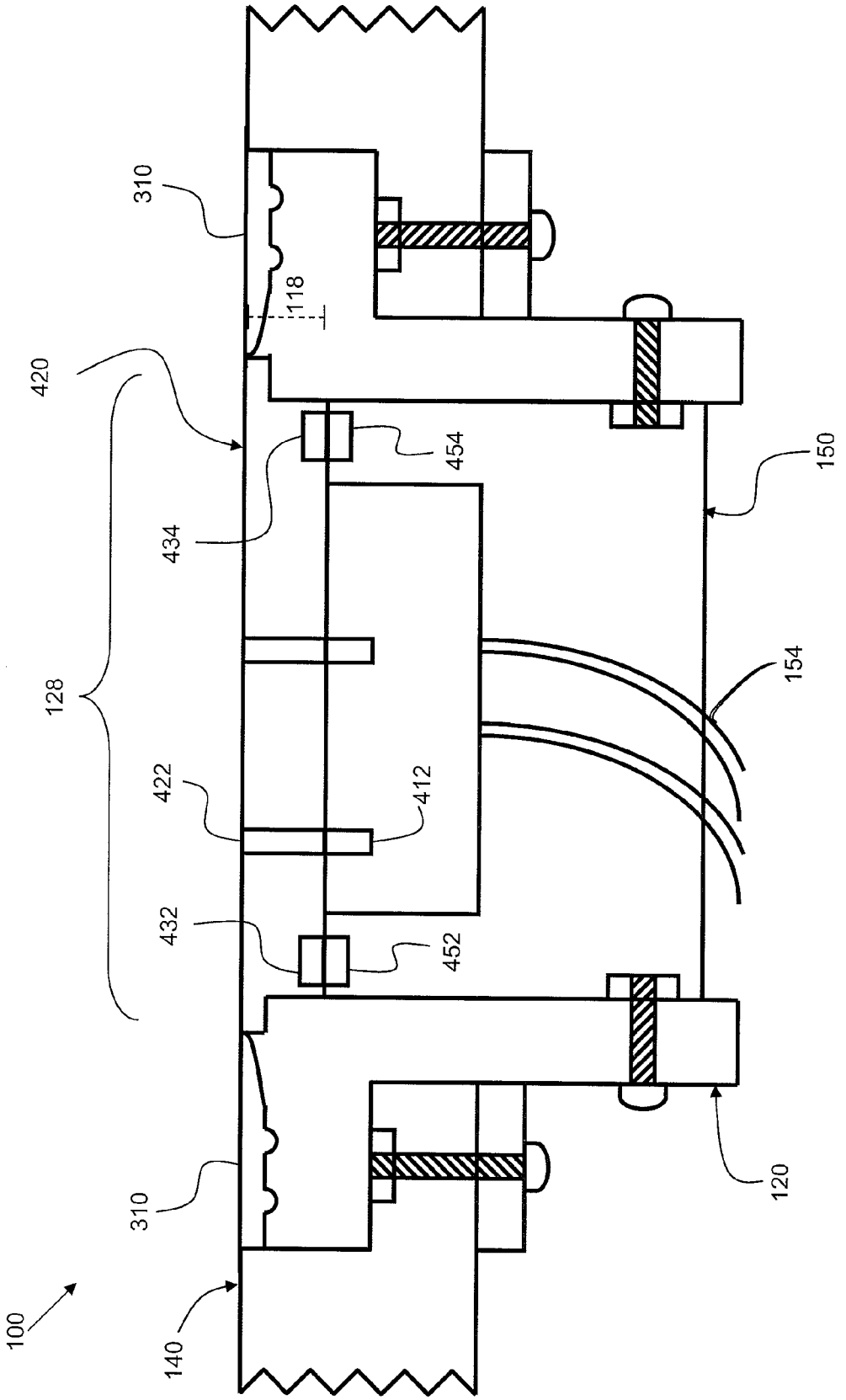


Fig. 5

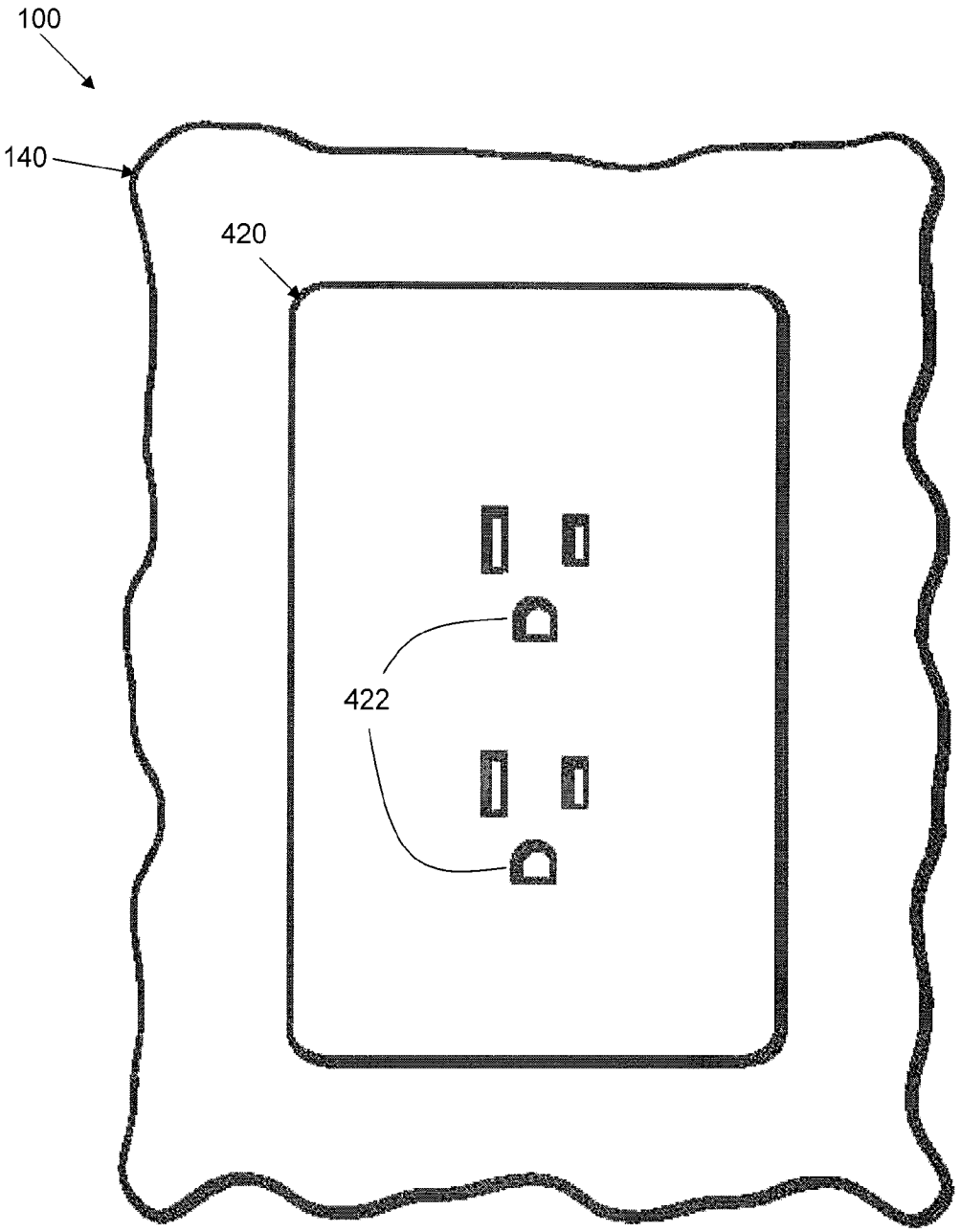


Fig. 6

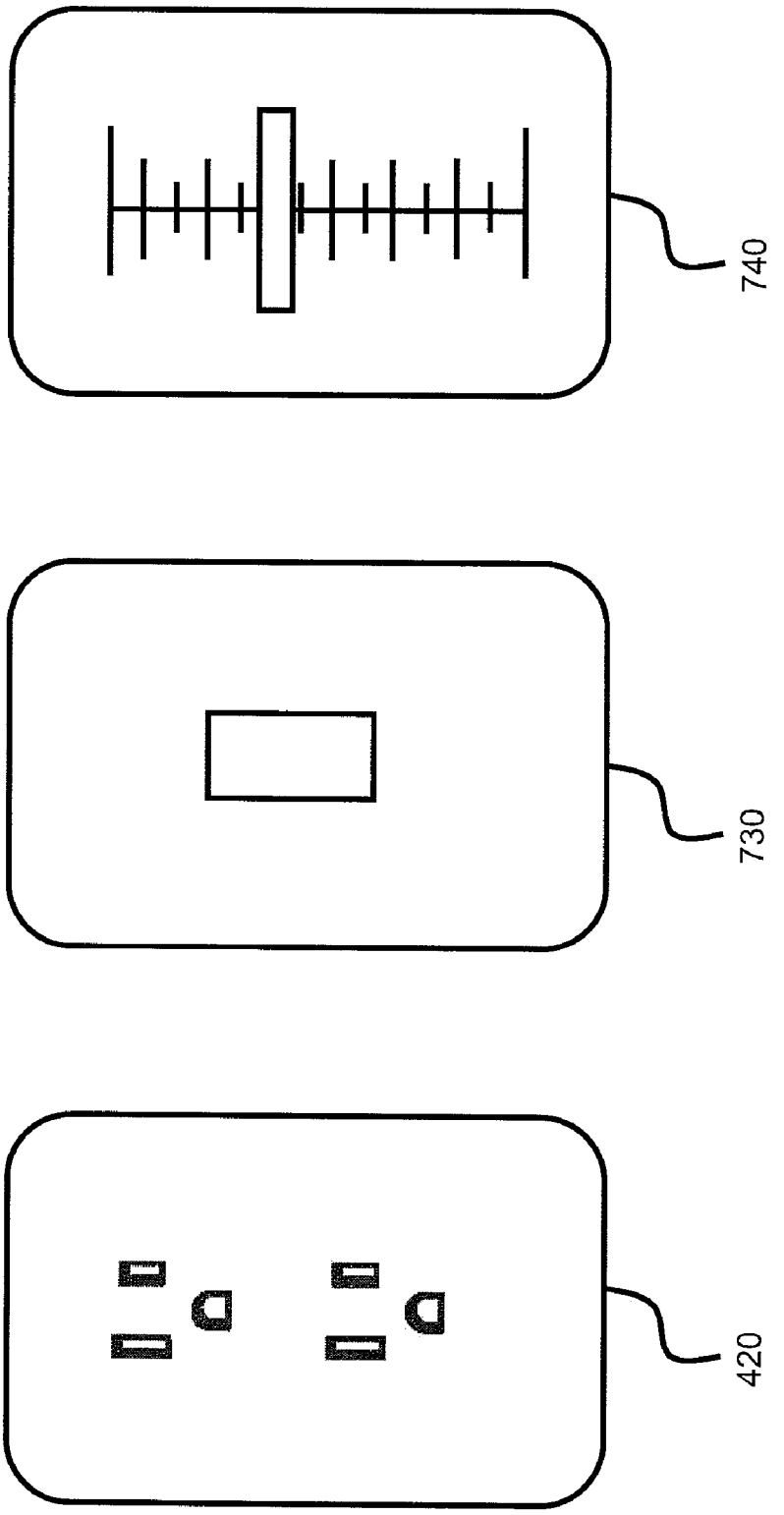
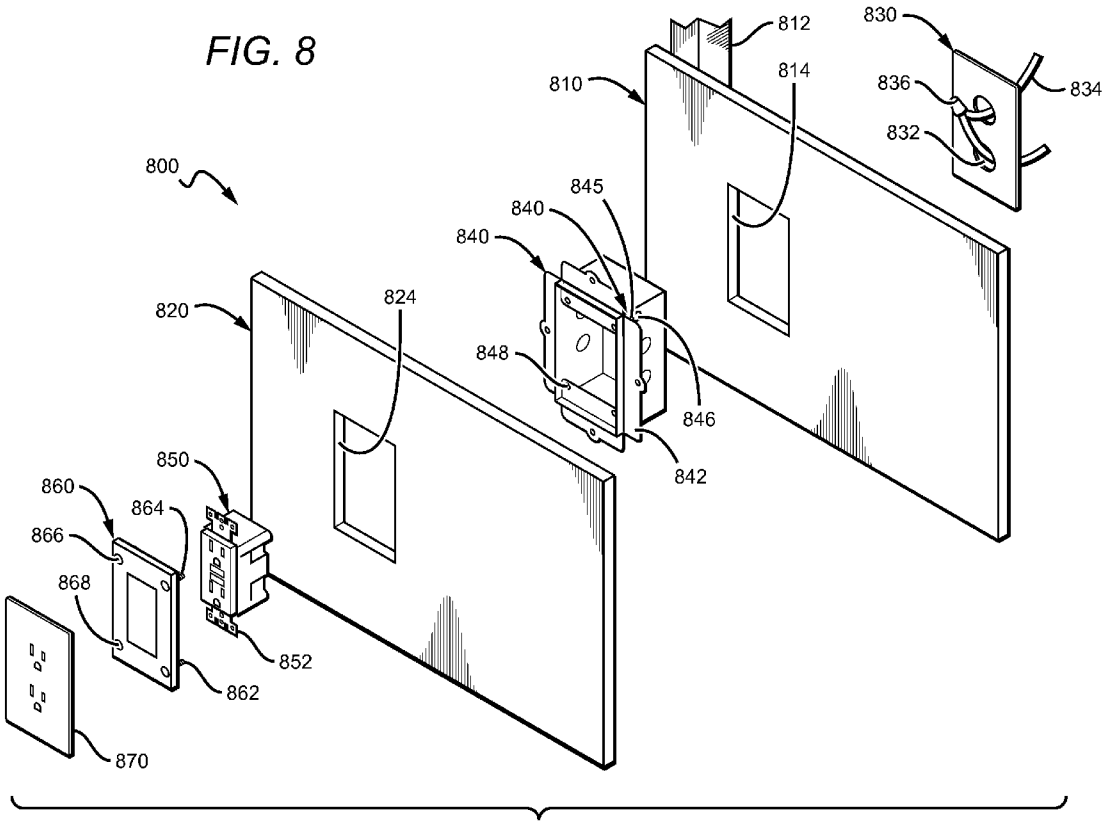


Fig. 7

FIG. 8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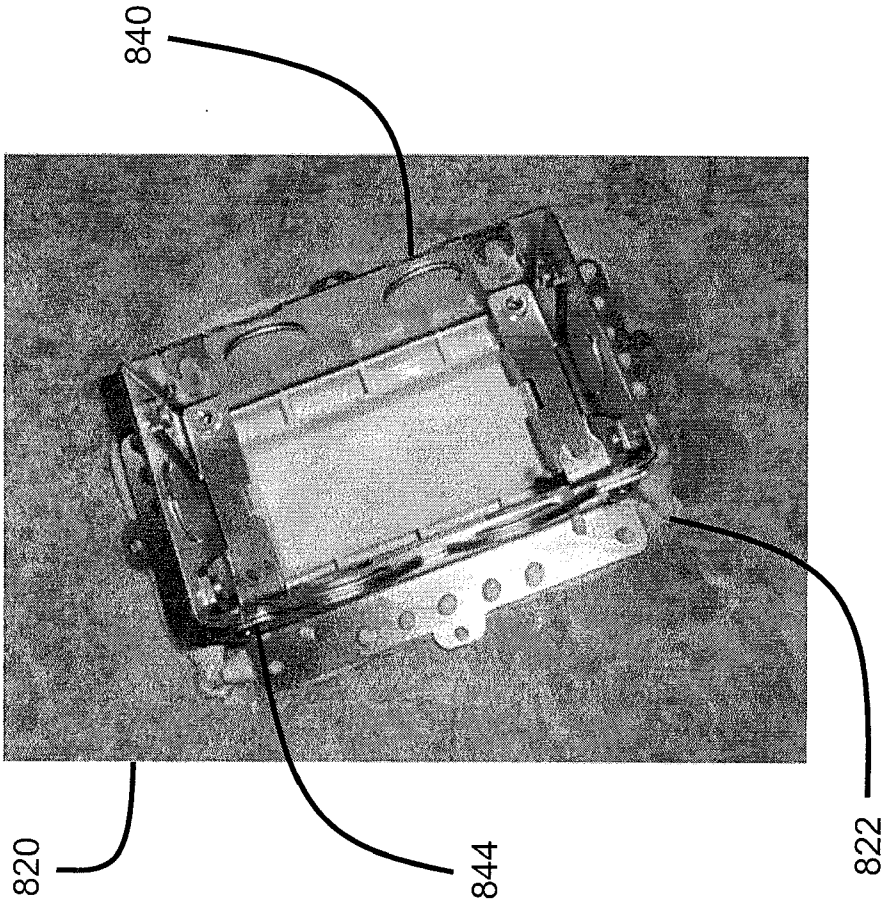


FIG. 9B

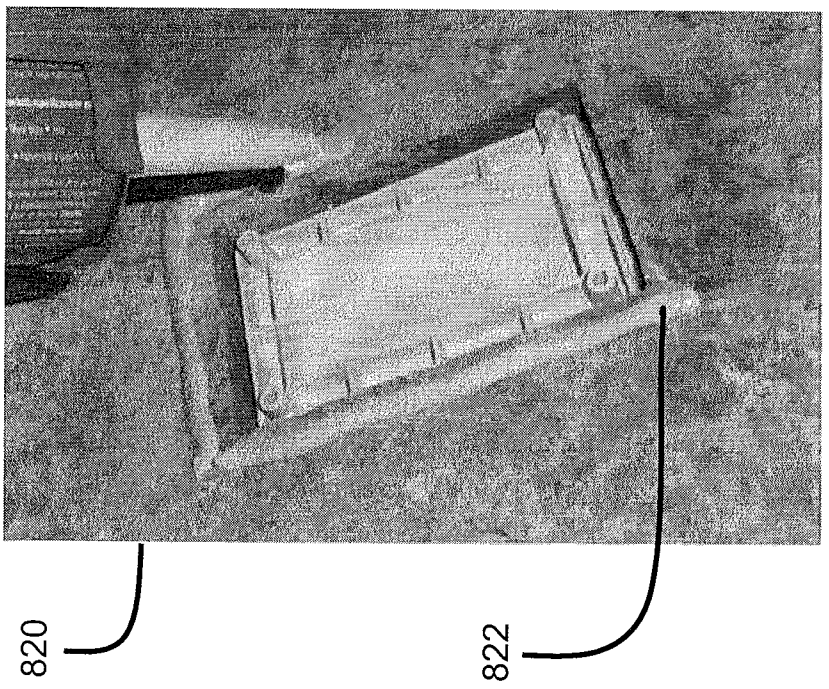


FIG. 9A

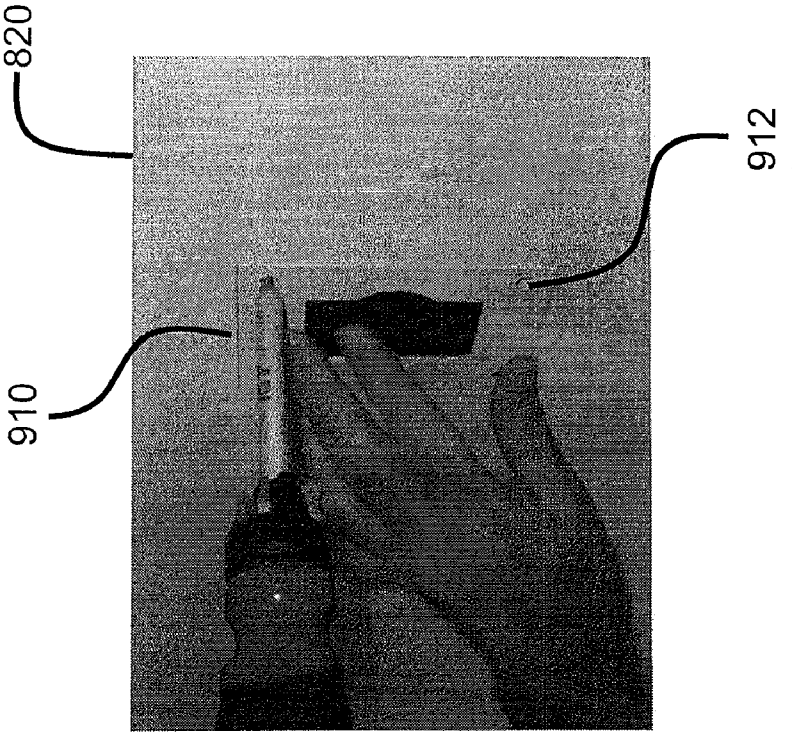


FIG. 9D

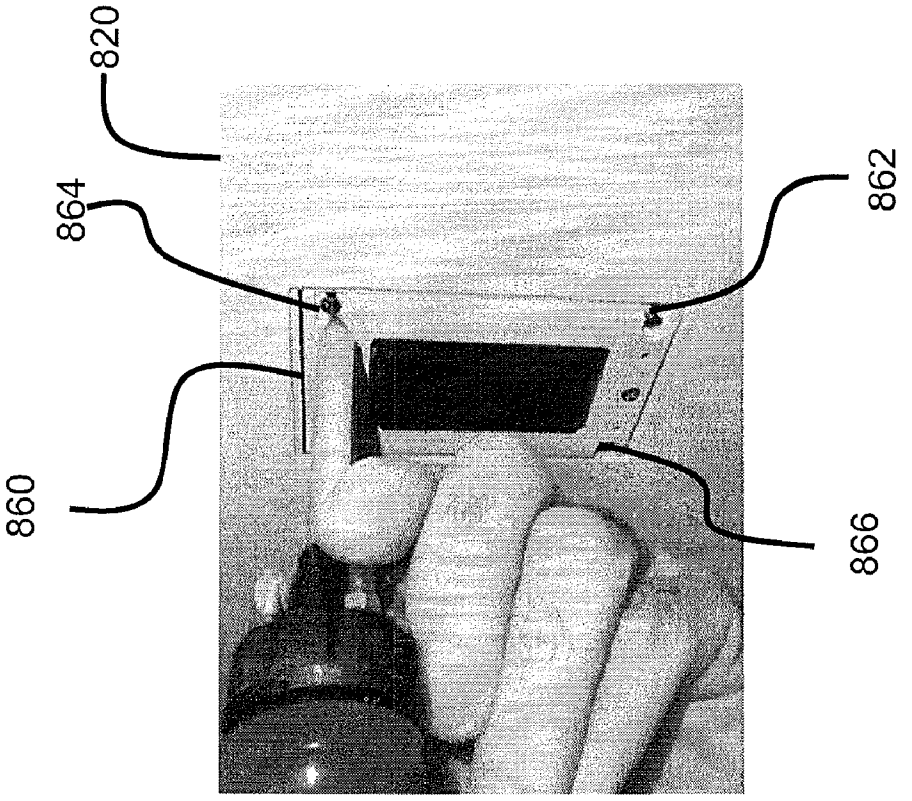


FIG. 9C

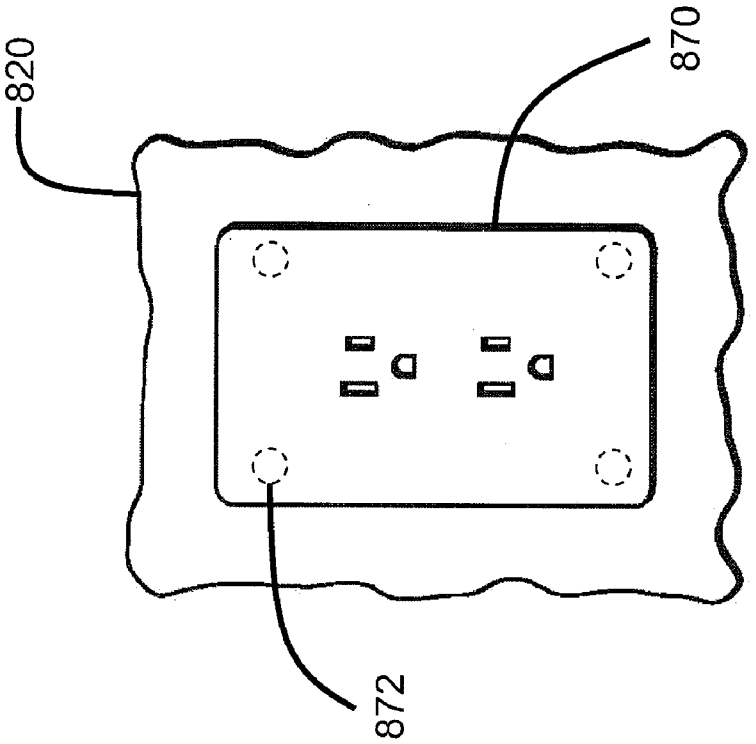


FIG. 9F

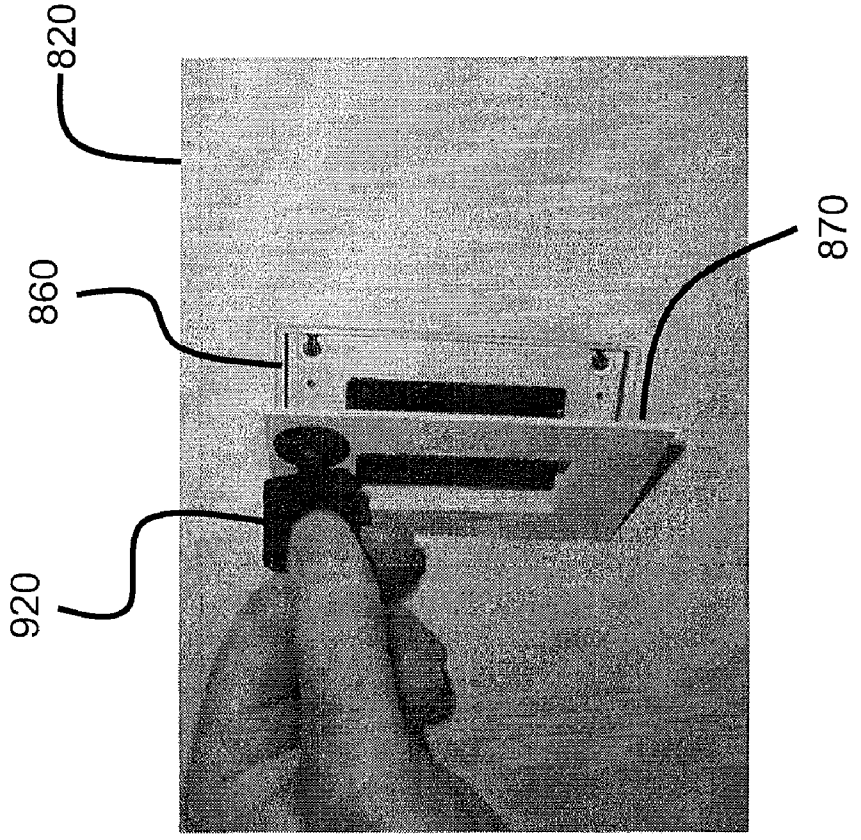
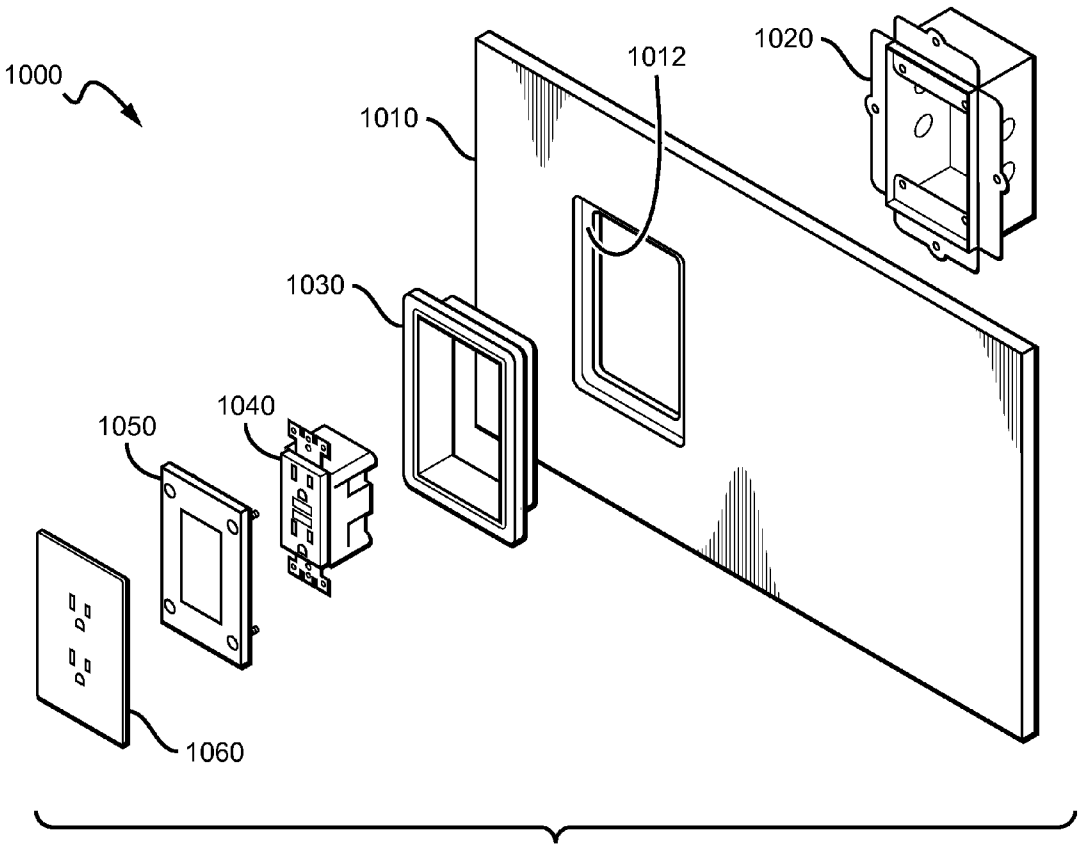


FIG. 9E

FIG. 10



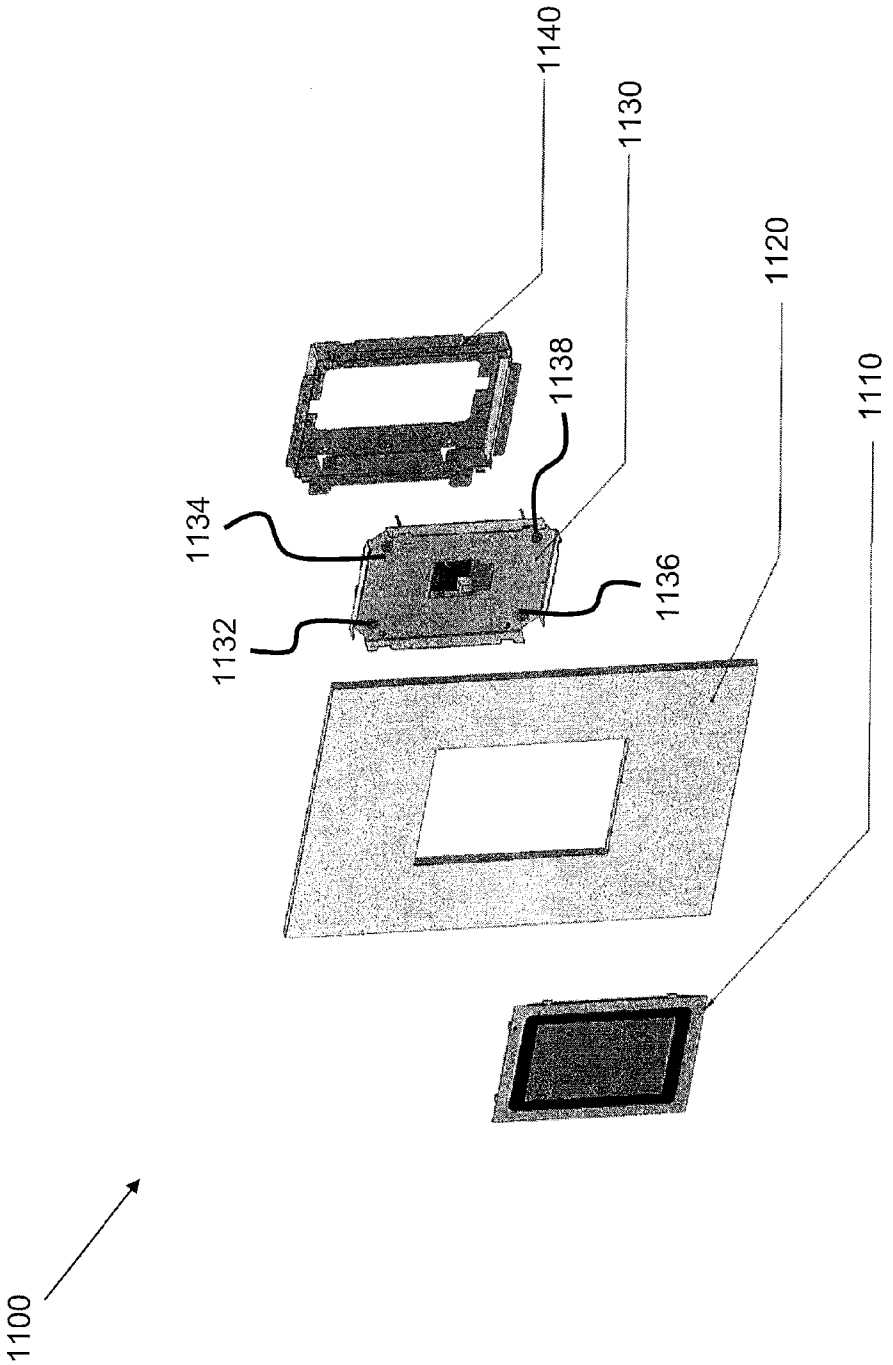


FIG. 11

WALL-MOUNT ADJUSTMENT SYSTEMS AND METHODS

[0001] This application claims the benefit of priority to U.S. Provisional Application 61/325,112, filed on Apr. 16, 2010. This application is also a continuation-in-part of co-pending U.S. application Ser. No. 12/555,534 filed Sep. 8, 2009. U.S. application Ser. No. 12/555,534 is a continuation-in-part of U.S. application Ser. No. 12/427,591 filed Apr. 21, 2009 which is a continuation-in-part of U.S. application Ser. No. 12/202,870 filed Sep. 2, 2008 which is a continuation-in-part of U.S. application Ser. No. 11/954,667 filed Dec. 12, 2007, now Issued U.S. Pat. No. 7,461,483 which is a continuation-in-part of U.S. application Ser. No. 11/566,365 filed Dec. 4, 2006, now Issued U.S. Pat. No. 7,699,138 which is a continuation of U.S. application Ser. No. 11/548,381 filed Oct. 11, 2006 which claims priority to U.S. Provisional Application 60/825,162 filed Sep. 11, 2006 and claims priority to U.S. Provisional Application 60/950,237 filed Jul. 17, 2007. U.S. application Ser. No. 11/566,365 is also a continuation-in-part of International Application PCT/US07/16404 filed Jul. 19, 2007 which claims priority to U.S. application Ser. No. 11/548,381 filed Oct. 11, 2006, U.S. Provisional Application 60/825,162 filed Sep. 11, 2006 and U.S. Provisional Application 60/950,237 filed Jul. 17, 2007. All prior applications are incorporated by reference in their entirety.

FIELD OF THE INVENTION

[0002] The field of the invention is installation of wall-mounted components.

BACKGROUND

[0003] Plasma screens, speakers, light switches, electrical outlets, recessed lighting, junction boxes, HVAC ducts and other wall components are typically mounted to holes formed in walls or ceilings. These components are generally placed behind a hole in a wallboard and are then pulled forward so as to be accessible through the hole. The component is then affixed to a nearby stud or beam to hold the component in place through the wall. After the component has been attached to the stud or beam, however, it becomes very difficult to adjust the depth of the front of the component relative to the front surface of the wallboard.

[0004] U.S. Pat. No. 3,778,609 to Liberman teaches a component bracket that slides along a plaster ring around the opening of the wallboard and adjusts a depth of the component with respect to the front surface of the wallboard. However, Liberman uses a flange to cover the gap between the hole in the wallboard and the ceiling. Use of the flange also helps to ensure that the front surface of the component is parallel with the front surface of the wall, since the front surface of the component is typically attached directly to the flange. Many installers wish to install wall components without using a flange, but would still appreciate a component bracket that allows depth adjustability. Liberman and all other extrinsic materials discussed herein are incorporated by reference in their entirety. Where a definition or use of a term in an incorporated reference is inconsistent or contrary to the definition of that term provided herein, the definition of that term provided herein applies and the definition of that term in the reference does not apply.

[0005] U.S. Pat. No. 5,482,282 to Wynn teaches a wall component that mounts to a depth-adjustable screw that protrudes from a wall bracket. The depth-adjustable screw can be used to ensure that the wall component fits snugly against the wall, but since the depth-adjustable screw is only located on one side of the wall component. Wynn, however, also uses a flange to cover the gap between the wall component and the hole in the wall.

[0006] Thus, there is still a need in the art for improved adjustment mechanisms for wall components that are installed in a wall without a flange.

SUMMARY OF THE INVENTION

[0007] The inventive subject matter provides apparatus, systems, and methods in which a wall component is installed into a partition, where the front surface of the wall component could be adjusted angularly with respect to the front surface of the partition. As used herein, the term "partition" should be construed broadly to mean any sort of mechanical barrier that separates two areas of space. Contemplated partitions include, for example, a wallboard, a ceiling tile, a granite countertop, a vehicle wall, and a door. Partitions can be made of any suitable material, including for example, plywood, plaster, wood, wood pulp, gypsum, stone, concrete, brick, and so forth. One preferred material is Aquatough™, due to its strength and water-resistance. The partitions can be supporting or non-supporting, so that even acoustic tiles used in a ceiling would be considered partition as the term is used herein. Similarly, wooden logs that form a wall in a log house would also be considered a partition as the term is used herein. Subsets of partitions include ceiling/wall partitions (i.e., barriers used as ceilings and/or floors), and wall partitions (i.e., barriers used as walls). Preferably, the partition is planar and is largely flat.

[0008] As used herein, a "component" should be interpreted as generically representing all practical wall mounted components, including for example, electrical outlets, data connectors, controllers, light and other switches, lighting, HVAC vents, sprinkler systems, smoke detectors, speakers, touch screens, and so forth. The various electrical and data wires and other cables are not shown in the figures, but should be assumed, and could be those conventionally contemplated in the art The component is generally installed into the partition by coupling a bracket to an opening in the partition, and then by coupling the component to the bracket. The partition opening could be cut on or off site to accommodate the bracket, or the partition could be molded to have a hole sized and dimensioned to receive a component bracket. The bracket could be coupled to the partition in any suitable manner, for example by using a chemical adhesive, screws, or by clamping the bracket to both front and rear sides of the partition opening. Preferably, the bracket is coupled to only the rear side of the partition so that no part of either the component or the bracket substantially protrudes from the front surface of the partition. As used herein, a surface that "substantially protrudes" from a surface extends less than 1 mm past the surface plane.

[0009] In an exemplary embodiment, the bracket comprises at least two sections, a front bracket and a rear bracket where the front bracket is coupled to the partition and the rear bracket is coupled to wall infrastructure systems, such as electrical wires or liquid/air conduits. This way, the front bracket could be provided to an installer who specializes in installing brackets to wall partitions while the rear bracket

could be provided to an installer who specializes in installing wall infrastructure systems for wall components, and the two brackets could be coupled at a later time. Preferably, the wall infrastructure is installed to the rear bracket before the partition is installed over the rear bracket. In an exemplary embodiment, the rear bracket is configured to attach to the front bracket at a variety of depths, allowing for a variety of depths to hold the wall component.

[0010] Once the bracket is sufficiently coupled to the partition, the component could be coupled to the bracket, and is preferably slightly recessed from the front of the recess such that a component leveler could fit within the recess. In an exemplary embodiment, the component leveler is slightly recessed from the front of the partition such that the fascia plate could attach to the component leveler to provide a more attractive flush mount finish. The fasica plate and the component leveler are sized and dimensioned such that the front surface of the fascia plate or the component leveler is substantially flush with the front surface of the partition. The component leveler has at least one depth adjustment mechanism that allows an installer to adjust the depth of a part of the component leveler with respect to the front surface of the partition.

[0011] Preferably, the component leveler has two, three, four, or more depth adjustment mechanisms close to the edges of the component leveler to allow an installer to adjust the depth of the component leveler angularly with respect to the front surface of the partition. This is especially useful for partitions with irregular surfaces, such as stone partitions, where one edge of the partition hole could protrude further than another edge of the partition hole. The depth adjustment mechanisms are preferably located within 0.5 in, 0.25 in., or even ⅛ in. from an edge or a corner of the component leveler. Providing multiple depth adjustment mechanisms also increases tension on the depth adjustment mechanisms, preventing the mechanism from sliding out of place post-installation. In an exemplary embodiment, the depth adjustment mechanisms are threaded adjustment screws that comprise affixed washers. Preferably, each depth adjustment mechanism is lockable at a certain depth to prevent the component leveler from easily shifting between depths when subjected to a sharp impact or vibration. As used herein, adjusting an object "angularly" means the ability to set the depth of one adjustment mechanism at a different depth of another adjustment mechanism for the same planar object, in this case the component leveler.

[0012] Allowing the component leveler to be adjusted angularly allows each edge of the front portion of the component to be substantially flush with the front of the partition. As used herein, surfaces that are "substantially flush" to one another means surfaces that diverge from one another by at most 0.05 in. (1.27 mm). Preferably, substantially flush surfaces diverge from one another by at most 0.02 in. (0.0508 mm) or by at most 0.01 in. (0.254 mm).

[0013] In exemplary embodiments, a fascia plate is provided that fits over the component leveler to hide the adjustment mechanisms from view. In such an embodiment, the component leveler is preferably slightly recessed from the front surface of the partition such that when the fascia plate is placed within the recess, the front of the fascia plate is substantially flush with the front of the partition. Exemplary fascia plates hide the attachment means between the fascia plate and the component leveler, such as those disclosed in application Ser. No. 12/251,951, incorporated herein by reference. In a preferred embodiment, the fascia plate comprises magnets that couple to magnetically attractive portions of the component leveler.

[0014] Since the fascia plate generally covers the depth adjustment mechanisms, a separate leveling plate is preferably utilized by an installer during installation to help adjust the various depths of the depth adjustment mechanisms. A leveling plate generally has the same size and dimensions as the fascia plate, but allows an installer to access the depth adjustment mechanisms, usually by providing holes in front of the depth adjustment mechanism. An installer using a leveling plate would generally match the edges of the leveling plate with the edges of the partition hole during installation to achieve a substantially flush look and feel. After the component leveler has been adjusted appropriately, the installer could then remove the leveling plate and then attach the fascia plate to the front of the component leveler. Of course, where a component leveler is not used, the installer would simply match the edges of the component leveler with the edges of the partition hole during installation.

[0015] Where the wall component is to be installed into a wall comprising drywall, the partition is preferably a panel such as those taught in application Ser. No. 12/555,534, incorporated herein by reference. It is contemplated that the panel could be prefabricated with a hole sized and dimensioned to receive the mounting bracket to reduce the time and cost of installation. Such holes could be fabricated such that the components and covers are flush mounted with the finished wall, ceiling, floor or other surface. The hole in the panel preferably has a skirted recess to receive the mounting bracket, such that the gripping surface of the bracket is slightly recessed from the front of the panel and the surrounding wallboard while the front-most portion of the spackle rim projects at least 0.01 in (0.254 mm) from the front of the panel. In other embodiments, the front-most portion of the spackle rim projects at least 0.03 in. (0.762 mm) or at least 0.05 in. (1.27 mm) from the front of the panel.

[0016] The inventive subject matter also provides apparatus, systems and methods in which a sanding shield limits the sandable area about an in-wall component. As used herein, a "sandable area" about an in-wall component is an area that could be sanded by a sanding surface, for example sandpaper or a sandblaster. Typically, the sanding shield limits the sandable area about an in-wall component by covering the in-wall component in some way, thereby preventing the sanding surface from coming in direct contact with a surface of the component by getting in between the sanding surface and the in-wall component.

[0017] Preferred sanding shield systems include a spackle rim with a recessed opening that provides access to a component that is mounted to a bracket behind the spackle rim. As used herein, a "recessed opening" is a hole that is skirted (i.e. at least partially surrounded) by a recess. Such recesses could be advantageously configured such a sanding shield placed within the recessed opening sits on top of the skirted recess, preventing the sanding shield from falling into the hole. While the sanding shield could be shaped to only cover a part of the hole, the sanding shield is preferably sized and dimensioned to cover the entire hole to prevent particulate matter from entering the hole and is more preferably sized and dimensioned to cover the entire recess as well as the hole. Since at least a portion of the component is generally accessible via the hole in the recessed opening, the sanding shield thereby protects that portion component from being sanded

when mounted within the recessed opening. As used herein, a sanding shield that is "mounted" within a recessed opening is coupled to the recessed opening in such a way that the sanding shield does not fall out of the recessed opening when force is removed, for example by using a latch or a magnetic attachment. Preferably, the sanding shield is sized and disposed to fit so snugly in the recess that friction forces prevent the sanding shield from falling out of the recessed opening.

[0018] Typically, the bracket has a front surface with the recessed opening and a mount that holds the component, which may all be molded from a single piece or may be constructed from separate pieces. For example, if the wall component is a heavy speaker embedded in drywall, the mount could be made of a sturdy metal frame to hold the heavy component while the front surface could be made from a less durable thermoplastic.

[0019] The bracket is typically attached to a partition before attaching the component to the bracket. Exemplary brackets are taught in co-pending application Ser. No. 12/555,534 and its related parent applications, which are incorporated herein by reference.

[0020] Where the wall component is to be installed into a wall comprising drywall, the partition is preferably a panel such as those taught in application Ser. No. 12/555,534, incorporated herein by reference. It is contemplated that the panel could be prefabricated with a hole sized and dimensioned to receive the mounting bracket to reduce the time and cost of installation. Such holes could be fabricated such that the components and covers are flush mounted with the finished wall, ceiling, floor or other surface. The hole in the panel preferably has a skirted recess to receive the mounting bracket similar to the skirted recess of the recessed opening. Preferably a front surface of the recessed opening is slightly recessed from the front surface of the partition to allow for spackle component to fill in the surrounding area and form a substantially flush surface after installation.

[0021] Flush mounting is generally achieved by installing the mounting bracket and recessed opening into the partition such that the front-most portion of the recessed opening is substantially flush with the front of the partition. Preferably, at least a portion of the perimeter of the recessed opening has a sloped spackle rim that is capable of being sanded down by more than a millimeter by applying at least 10 pounds per square inch across the surface for 100 cycles. An installer could then spread spackle component across a surface of the partition up to the spackle rim of the mounting bracket and then could sand excess spackle component from the front of the mounting bracket after the spackle component dries. The front surface of the bracket between the outer perimeters and the spackle rim are preferably non-planar to increase the surface area that receives the spackle component and "grip" the spackle component better. In an exemplary embodiment, the gripping surface is scored in multiple directions, for example a horizontal and a vertical direction, to prevent the mounting bracket from sliding in any direction after the spackle component has been applied.

[0022] Preferably, the front-most portion of the spackle rim projects at least 0.01 in (0.0254 mm) from the front-most portion of the panel so as to provide some tactile and/or visual feedback when the installer sands away a portion of the spackle rim around the sanding shield. In other embodiments, the front-most portion of the spackle rim projects at least 0.03 in. (0.762 mm) or at least 0.05 in. (1.27 mm) from the front of the panel.

[0023] The sanding shield is preferably made from a visually or tactily distinct material from standard spackle components so that an installer who sands the spackle component will know when to stop sanding. For example, the sanding shield could be made of a transparent or black material, so that an installer could sand the spackle component until the sanding shield is clearly visible through the dried spackle component. Preferably, the sanding shield is made from a colored (non-white) material, since most spackle components are white when they dry. In another embodiment, the sanding shield could comprise a rough material, so that the installer could sand the spackle component until the installer feels or hears the sound of a different material being sanded. Since the front-most portion of the spackle rim slightly projects from the front of the panel, any damage to the spackle rim by over-sanding would be negligible.

[0024] In an alternative embodiment, the tip of the spackle rim that projects past the front surface of the panel comprises a visually or tactily distinct material from the rest of the spackle rim that not only sends a signal to the installer when the tip of the spackle rim is being sanded away, but also sends a signal to the installer when the installer has sanded the spackle rim to be level with the front of the panel. For example, the tip of the spackle rim could comprise a granular material that easily wears away and sends a tactile signal up the arm of an installer that he should stop sanding, while the rest of the spackle rim is comprised of a tougher thermoplastic; or the tip of the spackle rim could comprise a first color, while the rest of the spackle rim comprises a second color visually distinct from the first color. Preferably, the tip of the spackle rim comprises a material with less mohs of hardness than the rest of the spackle rim, causing the tip to be easier to sand away. Preferably, the spackle rim protrudes from the front of the sanding shield by at least 0.005 in (0.0127 mm) or 0.01 in (0.0254 mm) and at most only 0.2 in (0.508 mm) or 0.1 in. (0.254 mm) of the tip is worn away while sanding.

[0025] Once the spackle component has been applied and sanded away, the front of the sanding shield should appear to be contiguous and flush with the panel. The installer could then remove the sanding shield and dispose a fascia plate in the recessed opening. The sanding shield could be removed by reaching behind the shield and popping it out of the recessed opening, or by pulling on a handle coupled to the sanding shield itself. In an exemplary embodiment, the handle comprises a hole with a width greater than 0.5 in (1.27 cm) or 0.75 in (1.905 cm) to allow an installer's finger to pull the spackle shield out. In another embodiment, the sanding shield has a recess that receives a handle that could be used to remove the sanding shield from the mount.

[0026] Preferably, the fascia plate and the sanding shield are interchangeably mountable within the recessed opening, such that a front surface of the fascia plate is at the same depth when mounted in the recessed opening as a front surface of the sanding shield when mounted in the recessed opening. In one embodiment, the fascia plate has substantially the same thickness as the sanding shield so that the front of the fascia plate is also substantially flush with the front of the panel. As used herein, thicknesses that are "substantially the same" as one another are within 0.01 in. (0.254 mm) from one another, and are preferably within 0.005 in. (0.127 mm) from one another. A plurality of different fascia plates could be provided that provide distinct looks from one another to the front of the wall component, and some fascia plates could reveal different portions of the wall component depending on

design. For example, a fascia plate for a wall outlet could reveal the electrical connections for the plug while covering all other parts of the wall outlet and a fascia plate for a monitor could reveal the screen while covering everything else.

[0027] Exemplary fascia plates hide the attachment means between the fascia plate and the component cover, such as those disclosed in application Ser. No. 12/251,951, incorporated herein by reference. In a preferred embodiment, the fascia plate comprises magnets that couple to magnetically attractive portions of the component cover.

[0028] Various objects, features, aspects and advantages of the inventive subject matter will become more apparent from the following detailed description of preferred embodiments, along with the accompanying drawing figures in which like numerals represent like components.

BRIEF DESCRIPTION OF THE DRAWING

[0029] FIG. **1** is a side cross-sectional view of an exemplary mounting bracket and sanding shield

[0030] FIG. **2** is a front perspective view of the mounting bracket and sanding shield of FIG. **1**.

[0031] FIG. **3** is a front perspective view of the mounting bracket and sanding shield of FIG. **2** with spackle component spread across a surface of the sanding shield.

[0032] FIG. **4** is a front perspective view of the mounting bracket and sanding shield of FIG. **3** after the spackle component has been sanded away.

[0033] FIG. **5** is a front perspective view of the mounting bracket of FIG. **2** with an installed component and fascia plate.

[0034] FIG. **6** is a side cross-sectional view of the mounting bracket and fascia plate of FIG. **3**.

[0035] FIG. **7** shows alternative fascia plates in accordance with the subject matter of the invention.

[0036] FIG. **8** is a front perspective view of the exemplary apparatus exploded about a solid surface partition.

[0037] FIG. **9**A is a rear perspective view of the solid surface partition of FIG. **8** with a chemical adhesive

[0038] FIG. **9**B is rear perspective view of the solid surface partition of FIG. **8** with an attached bracket

[0039] FIG. **9**C is a front perspective view of the solid surface partition of FIG. **8** with a component leveler attached to the component and the component bracket.

[0040] FIG. **9**D is a front perspective view of the apparatus of FIG. **8** with an optional leveling plate used to fine-tune the adjustment mechanisms.

[0041] FIG. **9**E is a front perspective view of the apparatus of FIG. **8** with an attached fascia plate being installed.

[0042] FIG. **9**F is a front perspective view of the apparatus of FIG. **8** in its installed form.

[0043] FIG. **10** is an exploded view of an exemplary apparatus attached to a partition designed for a drywall mount.

[0044] FIG. **11** is an exploded view of an exemplary apparatus with a component leveler positioned behind the component.

DETAILED DESCRIPTION

[0045] In FIGS. **1** and **2**, the flush mounting apparatus **100** generally has a wall component **150** that is attached to mounting bracket **120** with threaded screws **152**, which in turn is attached to partition **140** using rear bracket **130** and threaded screw **132**. While screws are used as an attachment means, other attachment means are contemplated, for example clips, nails, and magnets. Using screws to attach the components is by no means meant to limit the scope of the claims. While wall component **150** is shown here as a wall outlet with electrical wires **154**, wall component **150** can be used euphemistically herein to represent any component that may be installed in a wall, whether electrical or non electrical.

[0046] Mounting bracket **120** generally comprises a spackle rim **122**, a gripping surface **126**, and a recessed opening **128**. Recessed opening **128** allows access to the front of component **150**, and recessed opening **128** is skirted with a projection **129** that serves as a "shelf" for sanding shield **110** to rest upon. While projection **129** is a single projection that extends along the entire perimeter of recessed opening **128**, projection **129** could instead comprise a plurality of projections that hug a perimeter of the recessed opening without departing from the scope of the invention. Gripping surface **126** is scored along lines **127** to increase the surface area of gripping surface **126** when a spackle component is spread along its surface.

[0047] Sanding shield **110** with thickness **118** comprises a transparent thermoplastic, but may be made of any suitable color of any sanding-resistant material without departing from the scope of the invention. Sanding shield **110** has a recess **112** with an upper cover **113** sized and dimensioned to mate with a handle **116** and a lower cover **114** that prevents much of the sanded spackle from falling into the mounting bracket and possibly contaminating wall component **150**. Sanding shield **110** is sized and dimensioned to cover all of entire recessed opening **128** including projection **129**. Preferably the fit between sanding shield **110** and recessed opening **128** produces enough friction forces to hold sanding shield **110** within recessed opening **128** when mounting bracket **120** or partition **140** is tilted in any direction, however other attachment mechanisms could be used to hold sanding shield **110** in place, for example suction cups or tabs.

[0048] Spackle rim **122** is sized and dimensioned such that the upper-most tip **124** of spackle rim **122** extends approximately 0.01 in. (0.254 mm) from the front of sanding shield **110** and from partition **140**. The upper-most tip **124** of spackle rim **122** is made of a granular material that is sanded away easier than the lower section **123** of spackle rim **122**, allowing for a tactile difference when all of the upper-most tip **124** is sanded away. Preferably, the granular material is also slightly colored so as to give a visual indicator to an installer when the installer is close to sanding away the entirety of upper-most tip **124**. When the installer sees and feels the granular tip sanding away, the installer could then slow the sanding process to ensure that the spackle is sanded exactly flush with the front of the sanding shield.

[0049] While the upper-most tip **124** of spackle rim **122** projects slightly from the front of sanding shield **110**, in alternative embodiments the upper-most tip of spackle rim **122** could be sized and dimensioned to be flush with the front surface of sanding shield **110**. In such an embodiment, the installer would simply sand away spackle until the installer sees the transparent or colored surface of sanding shield **110**, and would then stop before sanding away any significant portion (more than 0.01 in or 0.254 mm) of spackle rim **122**.

[0050] As shown in FIG. **3**, an installer could spread spackle component **310** over gripping surface **126**, completely covering portions of partition **140**, mounting bracket **120**, and wall component **150**. Once the spackle component is dry, the installer could then sand away spackle component **310** to ensure a perfectly flush surface, as shown in FIG. **4**.

When the installer sands away the upper-most tip **124** of spackle rim **122**, colored granular material **410** then provides a visual cue to the installer that he should slow down his sanding until all of sanding shield **110** is visible. Preferably, colored granular material is a material that can be easily cleaned or erased, such as graphite. Sanding shield **110** could then be removed using handle **116** by the installer to be replaced by a fascia plate (not shown).

[0051] In FIGS. **5** and **6**, sanding shield **110** has been replaced with fascia plate **420** that fits over component **410**. Fascia plate **420** has substantially the same dimensions (length, width, and thickness) as sanding shield **110**, but has holes **422** that reveal electrical plugs **412** in component **410**. (note that the electrical plugs **412** and holes **422** are not drawn to scale in FIG. **5**) Fascia plate **420**'s thickness **428** is substantially the same as sanding shield **110**'s thickness **118**. Since fascia plate **420** has substantially the same thickness as sanding shield **110**, fascia plate **420** is also substantially flush with the front of bracket **120** and partition **140**.

[0052] While fascia plate **420**'s dimensions also allow it to be mountable within recessed opening **128** via friction forces without needing additional attachment mechanisms, fascia plate **420** has magnetically attractable material **432** and **434** to help keep it in place. Magnetically attractable material **432** and **434** are attracted to magnetically attractable material **442**, **444**, **446**, and **448** in component **410** to hold fascia plate **420** against component **410**, respectively. As defined herein, "magnetically attractable material" is a material with a relative magnetic permeability greater or equal to one. Preferably, magnetically attractable materials **442**, **444**, **446**, and **448** are magnets, while magnetically attractable materials **432**, **434**, **436**, and **438** are merely ferrous, but the opposite could be true without departing from the scope of the invention.

[0053] FIG. **7** shows alternative fascia plates **730** and **740** that have similar sizes and dimensions to fascia plate **420**, such that that each of the fascia plates are substantially flush with the surrounding front surface of the bracket and the wallboard when mounted to recessed opening **128**. Alternative fascia plates if a installer wants to use the same bracket and spackle rim for different components, or if a user wants a different color or design for the same component.

[0054] In FIG. **8**, an exemplary apparatus **800** comprises a drywall partition **810**, a solid surface partition **820**, a rear bracket **830**, a front bracket **840**, a component **850**, a component cover **860**, and a fascia plate **870**. As used herein, a "solid surface partition" is any partition that has a hardness that is higher than gypsum. Solid surface partitions generally require specialized installation techniques because the solid surface is tougher than drywall, spackle can't be used to easily fill in gaps and holes that are accidentally made during installation, and holes generally need to be cut with specialized table saws. In the current embodiment, the solid surface partition is a marble partition that is partially supported by the drywall partition, and requires a specialized saw to cut out the rectangular hole sized and dimensioned to accept front bracket **840**.

[0055] Rear bracket **830** is a metal back plate with two holes **832** that are used to thread electrical wires **834** which will provide power and/or network connectivity to component **850**. Electrical wires **834** are threaded through holes **832** and are held in place using banana clip **836**. By providing a rear bracket **830** which is separate from front bracket **840**, apparatus **800** allows an installer to install infrastructure systems and couple them directly to rear bracket **830** separate from the installation of front bracket **840**. While the infrastructure system coupled to rear bracket **830** is shown here as two wires coupled to holes in a back plate, contemplated infrastructure systems are more complex, for example UPS power supplies, HVAC vents, or computer networking infrastructure. Rear bracket **830** could be made from any suitable material that can support a wall infrastructure without departing from the scope of the invention.

[0056] Front bracket **840** is sandwiched between solid surface partition **820** and drywall partition **810** to provide additional support to component **850**. Drywall partition **810** is a standard drywall wall attached to support studs **812**. Stronger partitions could be used to strengthen or otherwise front bracket **840** or solid surface partition **820**, for example tile, wood, granite, or gypsum-made wall partitions such as Aqua-tough™. Holes **814** and **824** are sized and dimensioned to accept front bracket **840** to provide access between component **850** and electrical wires **834**. It is contemplated that solid surface partition **820** and drywall partition **810** could be molded with holes **814** and **824**, or the holes could be cut on-site.

[0057] Front bracket **840** is a metal bracket with wings **842** that help front bracket **840** couple to solid surface partition **820**. As shown in FIGS. **9**A and **9**B, front bracket **840** is preferably coupled to solid surface partition **820** using chemical adhesive **822**, which provides a semi-permanent bond between front bracket **840** and solid surface partition **820**. Front bracket **840** could be attached to solid surface partition **820** in a variety of other suitable methods, for example by screwing the front bracket into the solid surface, by taping the wings to the solid surface, by using magnetic clamps, by using interlocking components, and by clamping solid surface partition **820** to drywall partition **810**, thereby creating a compressive force that holds front bracket **840** in place.

[0058] Front bracket **840** has rough adjustment mechanisms **844** that allow front bracket **840** to slide towards and away the front surface of solid surface partition **820**. Rough adjustment mechanisms **844** comprise slots **845** and screws **856** that allow an installer to roughly adjust the depth of the front bracket by the length of the slot after wings **842** have been semi-permanently bonded to the rear surface of solid surface partition **820**. Alternative rough adjustment mechanisms are contemplated, for example ratchet systems, holes with pegs, and screws orientated perpendicularly to the plane of the solid surface.

[0059] After front bracket **840** and solid surface partition **820** are coupled with one another, drywall partition **810** could then add support to the front bracket and solid surface with screws or other adhesives that couple the drywall partition to the solid surface partition, thereby sandwiching the front bracket between the two partitions. The partitions could also be sandwiched together by coupling rear bracket **830** to front bracket **840** using screws, bolts, chemical adhesive, or other suitable attachment means. Interlocking partitions are also contemplated. While drywall partition **810** is provided to provide additional support to solid surface partition **820**, front bracket **840** could be installed into solid surface partition **820** without the need of drywall partition **810**.

[0060] After front bracket **840** is coupled to solid surface partition **820**, component **850** could then be coupled to front bracket **840** and/or component leveler **860**. Component **850** is preferably positioned between component leveler **860** and front bracket **840** to provide additional support to component **850**, as wall components are generally rather expensive and

troublesome to replace. Wall component **850** is a wall outlet that couples with wires **834** to provide electricity via an outlet box, but could be replaced with other suitable wall components if needed.

[0061] Component leveler **860** covers a portion of component **850**, namely the top and bottom wings **852**, and has four adjustment mechanisms **862**, **864**, **866**, and **868** located near the corners of component leveler **860** which allow fine-adjustment of the front surface of component **850** relative to the front surface of partition **820**. As shown in FIG. **9**C, his allows an installer to attach component leveler **860** to front bracket **840** via through holes **848**, and also allows the installer to adjust component leveler **860** angularly. By fine-adjusting the four adjustment mechanisms **862**, **864**, **866**, and **868**, an installer could ensure that the front surface of component **850** is perfectly flush with the front surface of solid surface partition **820**.

[0062] Since the current embodiment is designed to allow fascia plate **870** to fit over component **850**, an installer would preferably adjust the four adjustment mechanisms **862**, **864**, **866**, and **868** such that fascia plate **870** is flush with the front surface of solid surface partition **820**. The installer could be aided through the use of a leveling plate **910** as shown in FIG. **9**D. Here, leveling plate **910** is a plate with the same thickness as fascia plate **870**, but has access holes **912** that allow an installer to access the adjustment mechanisms **862**, **864**, **866**, and **868** through leveling plate **910**. By using leveling plate **910** in conjunction with the adjustment mechanisms **862**, **864**, **866**, and **868**, an installer could ensure that every outer edge of leveling plate **910** is flush with every inner edge of hole **824** of solid surface partition **820**. This therefore ensures that every outer edge of fascia plate **870** will then be flush with every inner edge of hole **824** of solid surface partition **820**, which in turn improves the flush-mount look and feel of fascia plate **870** when installed over component **850**.

[0063] As shown in FIGS. **9**E and **9**F, fascia plate **870** couples to component leveler **860** using magnet attractors **872**, and could be removed using suction cup **920**, functioning much in the same way that fascia plate **420**. Alternative fascia plate attachment mechanisms are contemplated, such as those taught in co-pending application Ser. No. 12/251,951, incorporated herein by reference.

[0064] Preferred installation instructions break down the installation into three component parts: (1) installation of the wall infrastructure, (2) installation of the component bracket, and (3) leveling of the component with respect to the solid surface partition. This is because different installation professionals typically install each segment separately. For example, in the present embodiment, typically an electrician would first install the electrical wiring to a back box and would either attach the back box to the rear bracket and leave the bracket hanging in the air, or would attach the back box to a wall stud. Then, an installer who specializes in installing marble tiles could then cut the solid surface and attach the bracket to the solid surface, and could attach the rear bracket to the front bracket. Lastly, a specialized installer could then install the component and the component leveler, could adjust the component leveler accordingly using the leveling plate, and then could couple the fascia plate to provide a substantially flush mount installation. By breaking down the installation into component parts, the apparatus can be installed without requiring marble wall installers to learn how to install electrical wiring, or wall infrastructure installers to learn how to cut marble.

[0065] FIG. **10** shows an alternative apparatus **1000** that is designed to install a component **1040** into a gypsum partition **1010**. Here, front and rear brackets are coupled to one another and are represented by bracket **1020**, and component **1040**, component leveler **1050**, and fascia plate **1060** all function in substantially the same manner as component **850**, component leveler **860**, and fasica plate **870** in FIG. **8**. The major difference is that alternative apparatus **1000** now has a partition with a skirted recess, and has a mounting bracket **1030** that functions in substantially the same manner as mounting bracket **120** in FIG. **1**. This allows an installer to utilize the sanding shield of FIGS. **1-7** to install component **1040** while fine-adjusting component leveler **1050** angularly.

[0066] FIG. **11** shows an alternative apparatus **1100** that is designed to install a component in a wall in front of the component leveler. Alternative apparatus **1100** generally has component **1110**, partition **1120**, component leveler **1130**, and bracket **1140**. Bracket **1140** could be attached to the back of partition **1120** or to a wall stud which is attached to the back of partition **1120**, while component leveler **1130** could be attached to bracket **1140** using attachment mechanisms **1132**, **1134**, **1136**, and **1138**. This allows component **1110** to be freely removable from the wall mount assembly, which could be useful when component **1110** is a computer, such as a laptop, an iPod™, or an iPad™. In preferred embodiments, component **1110** is wrapped in a specialized case that magnetically mates with component leveler **1130** to allow for ease of mounting and dismounting from the partition **1120**.

[0067] It should be apparent to those skilled in the art that many more modifications besides those already described are possible without departing from the inventive concepts herein. The inventive subject matter, therefore, is not to be restricted except in the spirit of the appended claims. Moreover, in interpreting both the specification and the claims, all terms should be interpreted in the broadest possible manner consistent with the context. In particular, the terms "comprises" and "comprising" should be interpreted as referring to elements, components, or steps in a non-exclusive manner, indicating that the referenced elements, components, or steps may be present, or utilized, or combined with other elements, components, or steps that are not expressly referenced. Where the specification claims refers to at least one of something selected from the group consisting of A, B, C . . . and N, the text should be interpreted as requiring only one element from the group, not A plus N, or B plus N, etc.

What is claimed is:

1. An apparatus for limiting a sandable area about an in-wall component, comprising:

a bracket that holds the component;

a sloped spackle rim with a recessed opening that provides access to the bracket; and

a sanding shield and a fasica plate interchangeably mountable within the recessed opening, wherein the sanding shield covers at least a portion of the opening.

2. The apparatus of claim **1**, wherein the sanding shield covers an entire perimeter of the recessed opening.

3. The apparatus of claim **2**, wherein the fascia plate reveals a portion of the component.

4. The apparatus of claim **1**, wherein the sanding shield comprises a transparent material.

5. The apparatus of claim **1**, wherein the sanding shield comprises a material having color other than white.

6. The apparatus of claim **1**, wherein the sanding shield comprises a handle.

7. The apparatus of claim **1**, wherein the sanding shield has substantially the same thickness as the fasica plate.

8. The apparatus of claim **1**, wherein the fascia plate comprises a magnetically attractable material.

9. The apparatus of claim **1**, wherein the rim comprises a white material.

10. The apparatus of claim **1**, wherein a tip of the rim comprises a granular material.

11. The apparatus of claim **1**, wherein the rim protrudes from a front of the sanding shield by at least 0.01 in. (0.254 mm).

12. An apparatus for installing a wall component in an opening in a partition, comprising:

a bracket coupled to the partition opening, wherein the bracket is configured to receive a component;

a component leveler that couples to component and the bracket;

a first adjustment mechanism that adjusts a first depth of the component leveler relative to a front surface of the partition;

a second adjustment mechanism that adjusts a second depth of the component leveler relative to the front surface of the partition; and

a third adjustment mechanism that adjusts a third depth of the component leveler relative to the front surface of the partition.

13. The apparatus of claim **12**, wherein the bracket is coupled to the partition using a chemical adhesive.

14. The apparatus of claim **12**, wherein the bracket is coupled to the partition using a screw.

15. The apparatus of claim **12**, wherein the bracket comprises a front bracket and a back bracket, wherein the back bracket is configured to couple to the front bracket at different depths relative to the front surface of the partition.

16. The apparatus of claim **12**, wherein the first adjustment mechanism comprises a threaded adjustment screw.

17. The apparatus of claim **12**, wherein the first adjustment mechanism couples to the component leveler less than ½ in. from an edge of the component leveler.

18. The apparatus of claim **12**, further comprising a fasica plate that couples to a front of the component leveler.

19. The apparatus of claim **18**, wherein a front surface of the fascia plate is substantially flush with the front surface of the partition.

20. The apparatus of claim **18**, further comprising a leveler plate having a thickness substantially the same as a thickness of the fascia plate.

21. The apparatus of claim **20**, wherein the leveler plate has a hole to allow access to the first adjustment mechanism through the leveler plate.

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