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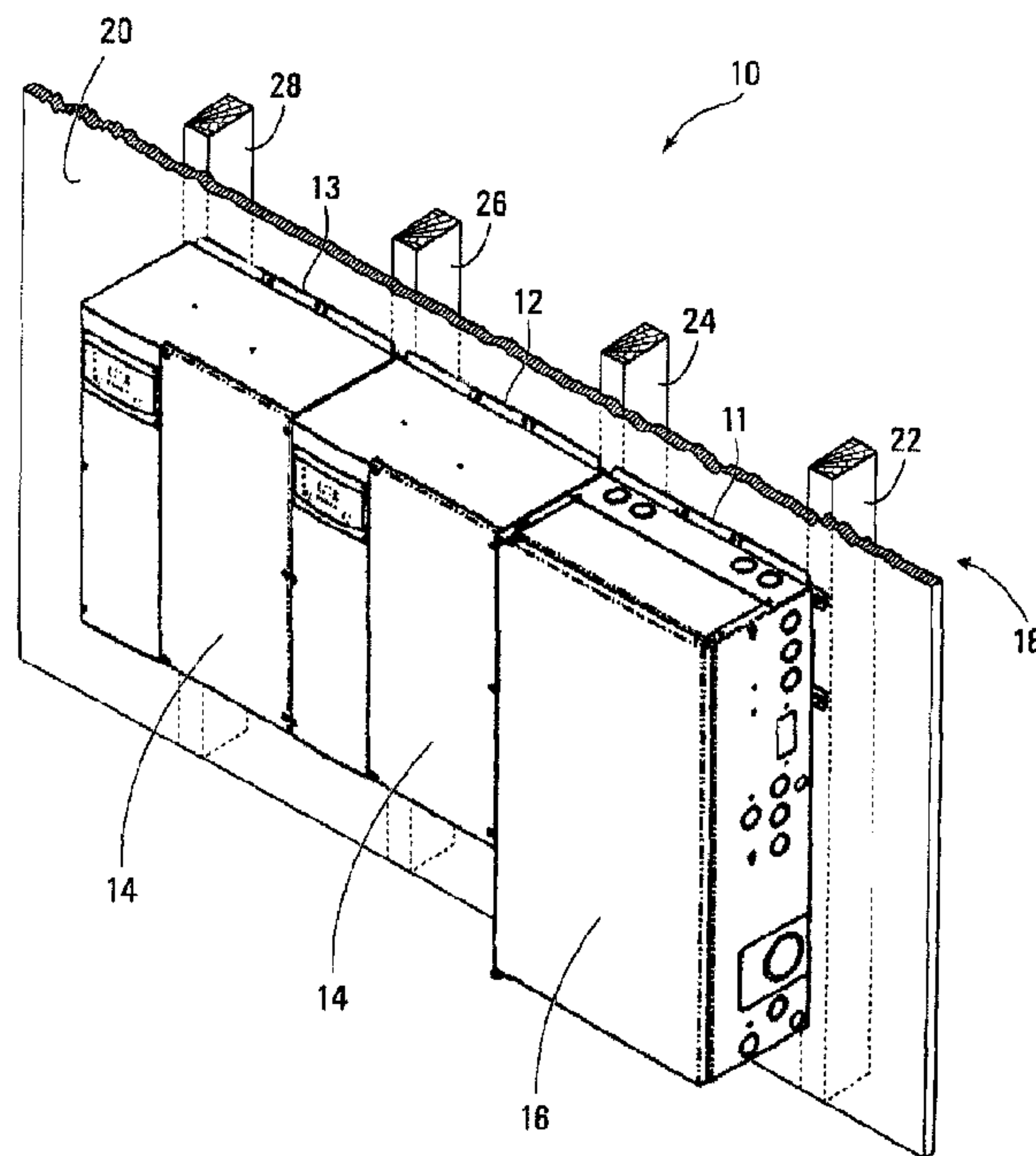
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(54) **Titre : DISPOSITIF, PROCÉDE ET SYSTÈME DE SUPPORT D'OBJET**

(54) **Title: APPARATUS, METHOD, AND SYSTEM FOR SUPPORTING AN OBJECT**



(57) **Abrégé/Abstract:**

An apparatus, method, and system for supporting an object or objects. The apparatus includes a first body operably configured to be mounted to a surface. The apparatus also includes a supporting connector on the first body, for supporting the object. The apparatus also includes a stabilizer on the first body generally spaced apart from and generally parallel to the supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with the supporting connector. The apparatus further includes at least one guide on the first body, the at least one guide on the first body being operably configured to guide an adjacent apparatus into an aligned position beside the apparatus on the surface.

ABSTRACT

An apparatus, method, and system for supporting an object or objects. The apparatus includes a first body operably configured to be mounted to a surface. The apparatus also includes a supporting connector on the first body, for supporting the object. The apparatus also includes a stabilizer on the first body generally spaced apart from and generally parallel to the supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with the supporting connector. The apparatus further includes at least one guide on the first body, the at least one guide on the first body being operably configured to guide an adjacent apparatus into an aligned position beside the apparatus on the surface.

APPARATUS, METHOD, AND SYSTEM FOR SUPPORTING AN OBJECT

BACKGROUND OF THE INVENTION

5 1. Field of Invention

This invention relates generally to supporting an object, and more particularly to methods, apparatuses, and systems for supporting an object on a surface.

10 2. Description of Related Art

In many applications, it is often desirable to install an object, such as heavy equipment, on a wall or other surface. For example, in electrical systems, it may be desirable to mount an inverter/charger or a distribution panel on a wall. In some instances, an inverter/charger or a distribution panel may weigh approximately **120** pounds, so it is often impractical to mount these objects directly on a wall. Instead, it may be more practical to fasten a body such as a bracket to the wall, and then support the object on the body.

20 Many surfaces, such as walls, include structural elements such as studs or joists. Often, these structural elements are spaced apart at regular intervals such as **12** inches, **16** inches, or **24** inches. In order to mount a body for supporting a heavy object to a surface with adequate structural support, it is often necessary to use fasteners that pass through openings in the body and cooperate directly with the structural elements. However, locating these structural elements may be time-consuming because the support structures are often invisible behind a covering such as a sheet of drywall, and may require special equipment such as a stud sensor to locate the structural elements.

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Therefore, when mounting an object to a surface, it is often necessary to use special equipment such as a stud sensor to ensure that the fasteners will

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cooperate directly with the structural elements or the surface. In addition, it is often necessary to use special equipment such as a leveling device to ensure that the object is level. Thus, mounting a series of objects of fixed size to a surface can be very time-consuming and can require extensive use of special equipment such as stud sensors or leveling devices on each object because each object must be independently positioned relative to the support structures, and each object must be independently leveled.

Also, some objects include a structure for support. Supporting a heavy object during mounting may be difficult because much of the object's weight must be supported by means other than the final mounting support until the final mounting support is secure, or until the object is secured to the support. Also, removing the object from the support may be difficult because unfastening the object from the support can cause the object to become immediately unattached unless it is secured by other means, which can create an unsafe situation.

SUMMARY OF THE INVENTION

In accordance with one aspect of the invention, there is provided an apparatus for supporting an object. The apparatus includes a first body operably configured to be mounted to a surface and having first and second opposite sides and a supporting connector, for supporting the object. The first body has a generally flat planar portion adjacent the supporting connector and parallel to the surface when the first body is mounted to the surface. The supporting connector includes a holder having a bite defined by a bent portion bent at an acute angle to the generally flat planar portion, the bite dimensioned to receive therein a surface of an object adapter secured to the object. The bent portion is angled toward the generally flat planar portion. The surface of the object adapter is parallel with the generally flat planar portion when the first body is mounted to the surface. The apparatus further includes a stabilizer on the first body generally spaced apart from and generally parallel to the supporting connector,

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operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with the supporting connector. The apparatus further includes first and second spaced apart guides on the first and second opposite sides of the first body and operably configured to guide an adjacent second body into an aligned position beside the first body on the surface. The first and second guides are complementary to each other, the first and second guides each include an opening for mounting the first body directly to the generally flat planar surface. The stabilizer includes a flange having a generally perpendicular portion adjacent and generally perpendicular to the generally flat planar portion and an angled portion adjacent to and at an acute angle to the generally perpendicular portion. The angled portion includes an opening for receiving a fastener for fastening the object to the first body. The angled portion extends away from a top edge of the generally flat planar portion.

The first body may have first and second parallel spaced apart edges, and the bent portion and the flange may be disposed along the first and second spaced apart edges.

In accordance with another aspect of the invention, there is provided an apparatus for supporting an object. The apparatus includes a first body having a generally flat planar portion and operably configured to be mounted to a surface and having first and second opposite sides. The apparatus further includes a supporting connector on the first body, for supporting the object. The supporting connector includes a holder having a bite defined by a bent portion at an acute angle to the generally flat planar portion, the bite dimensioned to receive therein a surface of an object adapter of the object, the surface of the object adapter being parallel with the generally flat planar portion when the first body is mounted to the surface. The apparatus further includes a stabilizer on the first body generally spaced apart from and generally parallel to the supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with the supporting connector. The stabilizer and the supporting connector are spaced apart on opposite ends of the

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generally flat planar portion of the first body. The apparatus further includes first and second spaced apart guides on the first and second opposite sides of the first body and operably configured to guide an adjacent second body into an aligned position beside the first body on the surface. The first and second guides are complementary to each other. The first guide includes a projection having an opening configured to receive a fastener to mount the first guide directly to the surface. The second guide includes a receptacle having an opening configured to receive a fastener to mount the second guide directly to the surface. The first body is generally flat planar and the projection and the receptacle lie generally in the same plane as the first body, and the projection comprises an elongate portion having first and second parallel spaced apart edges extending outwardly from the first body and a third edge extending generally between the first and second edges and generally at right angles thereto. The receptacle comprises fourth and fifth edges extending inwardly of the first body and a sixth edge extending generally between the fourth and fifth edges and generally at right angles thereto. The stabilizer includes a flange having an angled portion angled at an acute angle to and extending away from a top edge of the flat planar portion.

The third edge and the sixth edge may be generally the same length.

In accordance with another aspect of the invention, there is provided a system for supporting an object. The system includes a first body having a generally flat planar portion and operably configured to be mounted to a surface. A supporting connector is on the first body, for supporting the object. The supporting connector includes a holder having a bite defined by a bent portion bent at an acute angle to the generally flat planar portion. The bite is configured to receive therein a surface of an object adapter of the object. The surface is parallel with the generally flat planar portion when the first body is mounted to the surface. The system further includes a stabilizer on the first body spaced apart from the supporting connector on opposite ends of the generally flat planar portion. The stabilizer includes a flange having an angled portion angled at an acute angle and extending away from a top edge of the flat planar

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portion. The system further includes at least one guide on the first body, the at least one guide on the first body includes an opening configured to receive therethrough a fastener for mounting the at least one guide directly to the generally flat planar surface. The system further includes an adjacent apparatus also for supporting an object. The adjacent apparatus includes a second body having a second generally flat planar portion and operably configured to be mounted to a second surface, and a second supporting connector on the second body, for supporting the object. The second supporting connector includes a second holder having a second bite defined by a second bent portion bent at an acute angle to the second generally flat planar portion. The second bite is configured to receive therein the surface of the object adapter. The adjacent apparatus further includes a second stabilizer on the second body spaced apart from the second supporting connector on opposite ends of the second generally flat planar portion. The second stabilizer includes a second flange having an angled portion angled at an acute angle and extending away from a second top edge of the second flat planar portion. The adjacent apparatus further includes a second guide on the second body. The second guide includes an opening configured to receive therethrough a fastener for mounting the second guide directly to the second surface. The at least one guide on the first body includes a projection and the second guide includes a receptacle having a shape complementary to the projection.

The first body may be generally flat planar, the projection may lie generally in the same plane as the first body, the second body may be generally flat planar and the receptacle may lie generally in the same plane as the second body.

The projection may include an elongate portion having first and second parallel spaced apart edges extending outwardly from the first body and a third edge extending generally between the first and second edges and generally at right angles thereto. The receptacle may include fourth and fifth edges extending inwardly of the second body and a sixth edge extending generally between the fourth and fifth edges and generally at right angles thereto.

5 The first, second, fourth and fifth edges may have generally the same length and the third edge and the sixth edge may have generally the same length such that the first and fourth edges may be operable to contact each other while the second and fifth edges contact each other while the third and sixth edges contact each other to align the second body relative to the first body.

10 In accordance with another aspect of the invention, there is provided a system for supporting an object. The system includes an object adapter secured to the object, the object adapter including a foot having a surface. The system further includes a first body configured to be mounted to a surface and having first and second opposite sides. The first body includes a supporting connector for supporting the object, and has a generally flat planar portion adjacent the supporting connector and parallel to the surface when the first body is mounted thereto. The supporting connector includes
15 a holder having a bite defined by a bent portion bent at an acute angle to the generally flat planar portion. The bite is configured to receive therein the surface of the foot such that the surface of the foot is generally parallel to the generally flat planar portion when the first body is mounted thereto. The bent portion is angled toward the generally flat planar portion, and there is a stabilizer, generally spaced apart from and
20 generally parallel to the supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with the supporting connector. The system further includes first and second spaced apart guides on the first and second opposite sides of the first body, each including an opening for mounting the first body directly to the surface. The stabilizer includes a
25 flange having an angled portion at an acute angle to the generally flat planar portion. The angled portion includes an opening for receiving therethrough a fastener for fastening the object to the first body, the angled portion extending away from a top edge of the generally flat planar portion.

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Other aspects and features of the present invention will become apparent to those ordinarily skilled in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying figures.

5 **BRIEF DESCRIPTION OF THE DRAWINGS**

In drawings which illustrate embodiments of the invention,

10 Figure 1 is a perspective view of a system according to a first embodiment of the invention;

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Figure 2 is a front elevational view of a body according to the embodiment shown in Figure 1;

Figure 3 is a side elevational view of the body of Figure 2;

Figure 4 is a perspective view of the body of Figure 2 illustrating fasteners in exploded view for fastening the body to support structures;

Figure 5 is a side elevational view of an object supported by the body of Figure 2; and

Figure 6 is a perspective view of the system of Figure 1 shown without equipment mounted to respective bodies.

DETAILED DESCRIPTION

Referring to Figure 1, a system for securing an object to a surface such as a wall, according to a first embodiment of the invention, is shown generally at 10. In this embodiment, the system 10 includes a first apparatus 11, a second apparatus 12, and a third apparatus 13 for supporting an object or plurality of objects. Other embodiments may include more or less apparatuses. The first apparatus 11 is exemplary of the apparatuses 11, 12, and 13, and a reference herein to "the apparatus 11" is a reference to any one of the apparatuses 11, 12, and 13. The apparatus 11 is illustrated in greater detail in Figures 2 and 3.

Still referring to Figure 1, in this embodiment each apparatus 11 supports an object such as an inverter/charger 14 or a distribution panel 16, although other objects may alternatively be supported. Also, although a plurality of apparatuses 11 and objects 14 are shown in Figure 1 in a one-to-one correspondence, it will be appreciated that an apparatus may support any number of objects, and an object may be supported by any number of apparatuses.

The apparatuses 11, 12, and 13 are mounted on a wall 18. The wall 18 preferably includes a generally flat covering 20, which may include drywall panels, for example. The covering 20 is preferably mounted in a vertical

orientation, to a plurality of generally parallel upstanding spaced apart support structures including a first support structure **22**, a second support structure **24**, a third support structure **26**, and a fourth support structure **28**. The support structures may be conventional dimensional lumber such as **2x4**'s, for example. The covering **20** has a flat outer surface **21** to which the apparatuses **11**, **12**, and **13** are mounted.

Referring to Figure 2, an apparatus according to the first embodiment of the invention is shown generally at **11**. The apparatus **11** includes a body **30**, which is formed from a plate of **14**-gauge (**1.9** mm thick) cold-rolled steel, which is powder-coated for appearance and corrosion resistance. The body **30** includes a generally flat planar portion **32**, a first side **34**, a second side **36** opposite the first side, a bottom portion **38**, and a top portion **40**. The body **30** further includes a first reinforcing rib **44** on the first side **34**, and a second reinforcing rib **46** on the second side **36**. The generally flat planar portion **32** preferably defines a plurality of openings **42** for receiving fasteners (not shown), and openings **43** that provide access for electrical connections to equipment when such equipment is mounted to the body **30**.

The body **30** further includes a first guide **48** on the first side **34**. The first guide **48** is generally co-planar with the generally flat portion **32**, and includes a generally rectangular projection **50** having first and second edges **52** and **54** extending outwardly from the generally flat portion **32**, and a third edge **56** extending between the first and second edges. The first guide **48** also has openings **57**, **58**, and **59**, which act as holders for holding fasteners, as shown in Figure 4. Although three openings **57**, **58**, and **59** are shown in Figure 2, any number of openings may be included on the first guide **48**.

The body **30** further includes a second guide **60** on the second side **36**. The second guide **60** is generally co-planar with the generally flat portion **32**, and includes a second projection **62** and a third projection **64** spaced apart from each other. The second and third projections **62** and **64** include fourth and

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fifth parallel and spaced apart edges **66** and **68** respectively, extending inwardly to the generally flat portion **32**. The second guide **60** further includes a sixth edge **70** extending between the fourth and fifth edges **66** and **68**. The edges **66**, **68**, and **70** define a generally rectangular receptacle **72**. The second and third projections **62** and **64** also have openings **74** and **75** respectively, which act as holders for holding fasteners, as shown in Figure 4. Although two openings **74** and **75** are shown in Figure 2, any number of openings may be included in the second guide **60**.

The receptacle **72** has a shape complementary to the projection **50**. Thus, the first, second, fourth, and fifth edges **52**, **54**, **66**, and **68** have generally the same length, and the third and sixth edges **56** and **70** have generally the same length. Thus, when two bodies **30** of the same type are juxtaposed, as shown in Figure 6, the first edge **52**, second edge **54**, and third edge **56** of the first body contact the fourth edge **66**, fifth edge **68**, and sixth edge **70** respectively of the second body.

In other embodiments, other shapes of the first and second guides **48** and **60** are possible. For example, the first and second edges **52** and **54** need not be parallel, but may be at acute or oblique angles to the third edge **56**. Also, the edges **52**, **54**, and **56** may be curved. In these embodiments, the second guide **60** would be shaped so that the receptacle **72** has a shape complementary to the projection **50**.

In still other embodiments, the first guide **48** and the second guide **60** may not be complementary, provided that they cooperate to define a preferred orientation of a body **30** relative to another body. For example, the first and second edges **52** and **54** may be longer or shorter than the fourth and fifth edges **66** and **68**, or the third edge **56** may include one or more portions that do not contact the sixth edge **70**. Also, the first and second guides **48** and **60** need not be co-planar with the generally flat portion **32**, although this is desirable.

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Still referring to Figure 2, the body 30 further includes a supporting connector 76 on the bottom portion 38, adjacent the generally flat portion 32. The body 30 also includes a stabilizer 78 on the top portion 40, also adjacent the generally flat portion 32, and generally spaced apart from and generally parallel to the supporting connector 76.

Referring to Figure 3, the supporting connector 76 includes a holder, which includes a bite 79 defined by a bent portion 80 bent at an acute angle to the generally flat portion 32. The stabilizer 78 includes a flange, which includes a generally perpendicular portion 82 that is adjacent and generally perpendicular to the generally flat portion 32, and an angled portion 84 that is adjacent and at an acute angle to the generally perpendicular portion. The angled portion 84 acts as a holder for holding an object mounted to the apparatus in place. Referring to Figure 2, the angled portion 84 has openings 86 for receiving fasteners as shown in Figure 5, for fastening the object 14 to the body 30. Although two openings 86 are shown in Figure 2, any number of openings 86 may be included.

Referring to Figure 4, the apparatus 11 is fastened to the flat surface of the covering 20. Fasteners 88, 90, 92, 94, extend through respective openings 74, 75, 57, 59 in the body 30 to structurally mount the apparatus to structures 22 and 24. The fasteners 88, 90, 92, and 94 may include nails, screws, or bolts, for example.

The support structures 22 and 24 are generally parallel and spaced apart by a standard distance such as 16 inches, and the openings 57 and 59 are spaced apart from the openings 74 and 75 by the same standard distance. Thus, if the fasteners 88 and 90 pass through a center line of the first support structure 22, then the fasteners 92 and 94 will generally pass through a center line of the second support structure 24 when inserted through the openings 57 and 59 respectively.

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Referring to Figure 5, an object **14** is supported by the apparatus **11**. To facilitate mounting the object **14** to the apparatus **11**, an object adapter **96** is first secured to the object **14** to cooperate with at least a portion of the supporting connector **76** in order to support at least a portion of the weight of the object on the apparatus **11**. To achieve this, the object adapter **96** includes a formed channel **97** of cold-rolled steel which, in this embodiment, is welded to the chassis of the object **14**. The channel **97** includes a body **99** having parallel spaced apart legs **101** and **103** having feet **105** and **107** respectively. The feet **105** and **107** are generally co-planar and have surfaces **109** and **110** that contact the flat surface of the covering **20**. The foot **105** is dimensioned to fit in the bite **79** of the supporting connector **76**.

The object **14** also includes a flange **98** positioned on the object to contact the angled portion **84** of the stabilizer **78** when the object adapter **96** is engaged with the supporting connector **76** as shown. In this embodiment, the flange **98** includes a metal tab that extends a distance as long as the angled portion **84**. The flange **98** is made of cold-rolled steel and has openings (not shown) that align with the openings **86** (Figure 2) in the angled portion **84**. Fifth fasteners **100** may be inserted through the openings of the flange **98** and the angled portion **84** to fasten at least a portion of the flange **98** to at least a portion of the angled portion **84**. The fifth fasteners **100** may include nuts and bolts, for example.

Operation

The operation of the apparatus is described with reference to Figure 6. A center line **102** of the first support structure **22** is first located with a device such as a stud sensor, and a mark is made on the covering **20**. Then, the first apparatus **11** is positioned on the covering **20** such that the opening **74** is aligned with the center line **102**. When the first apparatus **11** is in this position,

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the first fastener **88** is inserted through the opening **74**, and into the covering **20**, and the first support structure **22**.

The first apparatus **11** is then pivoted in a vertical plane about the first fastener **88** until the first apparatus is level, according to a carpenter's level. Then, the second fastener **90** is inserted through the opening **75**, and into the covering **20**, and into the first support structure **22**. The third and fourth fasteners **92** and **94** are then inserted through the openings **57** and **59** and are secured through the covering **20**, and into the second support structure **24**. Because the openings **57** and **59** are spaced apart from the openings **74** and **75** by the same standard distance that separates the support structures **22** and **24**, and because the first fastener **88** was aligned with the center line **102** of the first support structure **22**, the fasteners in the openings **57** and **59** will generally be aligned with a center line (not shown), of the second support structure **24**.

Once the first apparatus **11** is in the position described above and as shown in Figure **6**, the second apparatus **12** may be positioned by aligning the second guide **60** (Figure **2**) of the second apparatus with the first guide **48** (Figure **2**) of the first apparatus **11** by causing the first projection **50** on the first apparatus **11** to be received in the receptacle **72** on the second apparatus **12**. Because the first apparatus **11** has been aligned as explained above, aligning the second apparatus **12** is quickly and efficiently achieved by simply causing the projection of the first apparatus to be engaged with the receptacle on the second apparatus. Thus, the second apparatus will be level, and the openings **74** and **75** of the second apparatus will be generally aligned with a center line of the second support structure **24**, and the openings **57** and **59** of the second apparatus will be generally aligned with a center line of the third support structure **26**.

Then, the third apparatus **13** may be positioned by receiving the projection of the second apparatus in the receptacle on the third apparatus. Additional

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apparatuses can be positioned in the same way. Thus, in the embodiment shown, the first, second, and third apparatuses are quickly and efficiently positioned generally level, and such that openings for receiving fasteners for securing the apparatuses to the wall are aligned with the non-visible conventionally spaced support structures behind the covering 20.

Although the example of Figure 6 includes only three apparatuses 11, 12, and 13, it will be appreciated that any number of apparatuses may be fastened to the wall 18 in the manner illustrated herein. By installing a plurality of the apparatuses 11 in this manner, the user may advantageously fasten apparatuses 11 to the wall 18 without having to position each body independently, thus saving time and reducing the need for special equipment to install successive apparatuses. When a plurality of apparatuses 11 are aligned in this way, the supporting connectors 76 of the apparatuses will be generally collinear, and thus form a virtually continuous supporting connector 104, and the stabilizers 78 of the apparatuses 11 will be generally collinear, and thus form a virtually continuous stabilizer 106.

Referring back to Figure 5, in order to support an object 14 on an apparatus 11, a user first supports at least a portion of the weight of the object on the apparatus by engaging the object adapter 96 with the supporting connector 76 by positioning the object such that the foot 105 is received in the bite 79. Next, the user rotates the object 14 about the supporting connector in order to cause the flange 98 to contact the angled portion 84. The fifth fasteners 100 are then inserted in the openings on the flange 98 and the angled portion 84 to fasten the flange to the angled portion. Thus, the supporting connector 76 and the stabilizer 78 cooperate to support the object 14 in a stationary position. The fifth fasteners 100 lock the object in place, preventing accidental dislodgement of the object from the apparatus 11 rendering the object less susceptible to earthquake damage or damage due to accidental removal or vandalism.

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Advantageously, at least a portion of the weight of the object **14** is supported by the supporting connector **76** while the user fastens the flange **98** to the angled portion **84**. Thus, other means of supporting the weight of the object, such as clamps, may not be required while the object **14** is being mounted to the apparatus **11**. Furthermore, when the user removes the object **14** from the apparatus **11**, the user can remove the fifth fasteners **100** while at least a portion of the weight of the object is supported by the supporting connector **76**, advantageously reducing the need for other means of supporting the weight of the object (such as clamps) while the object is being removed.

As illustrated in Figure 1, the virtually continuous supporting connector **104** and the virtually continuous stabilizer **106** may be used to support a combination of objects such as inverter/chargers **14** and/or distribution panels **16**.

While specific embodiments of the invention have been described and illustrated, such embodiments should be considered illustrative of the invention only and not as limiting the invention as construed in accordance with the accompanying claims.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An apparatus for supporting an object, the apparatus comprising:

5 a first body operably configured to be mounted to a surface and having first and second opposite sides;

10 a supporting connector on said first body, for supporting the object, said first body having a generally flat planar portion adjacent said supporting connector and parallel to said surface when said first body is mounted to said surface, said supporting connector including a holder having a bite defined by a bent portion bent at an acute angle to said generally flat planar portion, said bite dimensioned to receive therein a surface of an
15 object adapter secured to said object, said bent portion being angled toward said generally flat planar portion, wherein said surface of said object adapter is parallel with said generally flat planar portion when said first body is mounted to said surface;

20 a stabilizer on said first body generally spaced apart from and generally parallel to said supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with said supporting connector; and

25 first and second spaced apart guides on said first and second opposite sides of said first body and operably configured to guide an adjacent second body into an aligned position beside said first body on said surface, said first and second guides being complementary to each other, said first and second guides each including an opening for
30 mounting said first body directly to said generally flat planar surface,

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wherein said stabilizer includes a flange having a generally perpendicular portion adjacent and generally perpendicular to the generally flat planar portion and an angled portion adjacent to and at an acute angle to the generally perpendicular portion, said angled portion including an opening for receiving a fastener for fastening said object to said first body, said angled portion extending away from a top edge of said generally flat planar portion.

2. The apparatus of claim 1 wherein said first body has first and second parallel spaced apart edges, and wherein said bent portion and said flange are disposed along said first and second spaced apart edges.

3. An apparatus for supporting an object, the apparatus comprising:

a first body having a generally flat planar portion and operably configured to be mounted to a surface and having first and second opposite sides;

a supporting connector on said first body, for supporting the object, said supporting connector including a holder having a bite defined by a bent portion at an acute angle to said generally flat planar portion, said bite dimensioned to receive therein a surface of an object adapter of said object, said surface of said object adapter being parallel with said generally flat planar portion when said first body is mounted to said surface;

a stabilizer on said first body generally spaced apart from and generally parallel to said supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in

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cooperation with said supporting connector, wherein said stabilizer and said supporting connector are spaced apart on opposite ends of said generally flat planar portion of said first body; and

5 first and second spaced apart guides on said first and second opposite sides of said first body and operably configured to guide an adjacent second body into an aligned position beside said first body on said surface, said first and second guides being complementary to each other, wherein said first guide includes a projection having an opening
10 configured to receive a fastener to mount said first guide directly to said surface, and wherein said second guide includes a receptacle having an opening configured to receive a fastener to mount said second guide directly to said surface,

15 wherein said first body is generally flat planar and wherein said projection and said receptacle lie generally in the same plane as said first body, and

20 wherein said projection comprises an elongate portion having first and second parallel spaced apart edges extending outwardly from said first body and a third edge extending generally between said first and second edges and generally at right angles thereto and

25 wherein said receptacle comprises fourth and fifth edges extending inwardly of said first body and a sixth edge extending generally between said fourth and fifth edges and generally at right angles thereto, and

30 wherein said stabilizer includes a flange having an angled portion angled at an acute angle to and extending away from a top edge of said flat planar portion.

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4. The apparatus of claim 3 wherein said third edge and said sixth edge are generally the same length.

5 5. A system for supporting an object, the system comprising:

a first body having a generally flat planar portion and operably configured to be mounted to a surface;

10 a supporting connector on said first body, for supporting the object, said supporting connector including a holder having a bite defined by a bent portion bent at an acute angle to said generally flat planar portion, said bite being configured to receive therein a surface of an object adapter of said object, said surface being parallel with said generally flat planar
15 portion when said first body is mounted to said surface;

a stabilizer on said first body spaced apart from said supporting connector on opposite ends of said generally flat planar portion, said stabilizer including a flange having an angled portion angled at an acute
20 angle and extending away from a top edge of said flat planar portion; and

at least one guide on said first body, said at least one guide on said first body including an opening configured to receive therethrough a fastener for mounting said at least one guide directly to said generally flat planar
25 surface;

an adjacent apparatus also for supporting an object, the adjacent apparatus comprising:

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a second body having a second generally flat planar portion and operably configured to be mounted to a second surface;

5 a second supporting connector on said second body, for supporting the object said second supporting connector including a second holder having a second bite defined by a second bent portion bent at an acute angle to said second generally flat planar portion, said second bite being configured to receive therein said surface of said object adapter;

10 a second stabilizer on said second body spaced apart from said second supporting connector on opposite ends of said second generally flat planar portion, said second stabilizer including a second flange having an angled portion angled at an acute angle and extending away from a second top edge of said second flat planar portion; and

15 a second guide on said second body, said second guide including an opening configured to receive therethrough a fastener for mounting said second guide directly to said second surface, wherein said at least one guide on said first body comprises a projection, and wherein said second guide comprises a receptacle having a shape complementary to said projection.

20 25 6. The system of claim 5 wherein said first body is generally flat planar and wherein said projection lies generally in the same plane as said first body and wherein said second body is generally flat planar and wherein said receptacle lies generally in the same plane as said second body.

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7. The system of claim 6 wherein said projection comprises an elongate portion having first and second parallel spaced apart edges extending outwardly from said first body and a third edge extending generally between said first and second edges and generally at right angles thereto and wherein said receptacle comprises fourth and fifth edges extending inwardly of said second body and a sixth edge extending generally between said fourth and fifth edges and generally at right angles thereto.

8. The system of claim 7 wherein said first, second, fourth and fifth edges have generally the same length and wherein said third edge and said sixth edge have generally the same length such that said first and fourth edges are operable to contact each other while said second and fifth edges contact each other while said third and sixth edges contact each other to align said second body relative to said first body.

9. A system for supporting an object, the system comprising:

an object adapter secured to said object, said object adapter including a foot having a surface; and

a first body configured to be mounted to a surface and having first and second opposite sides, said first body including:

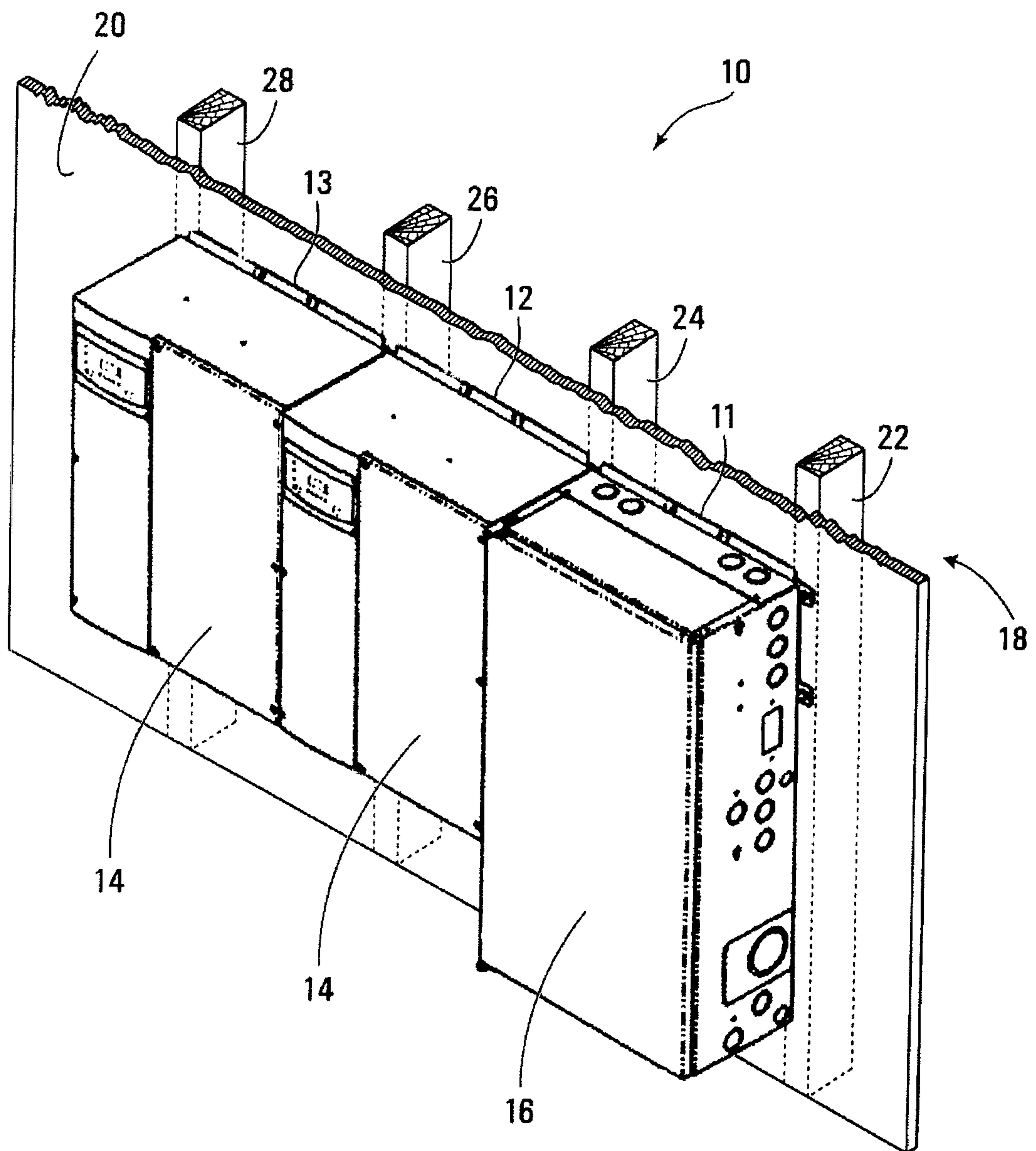
a supporting connector for supporting the object, said first body having a generally flat planar portion adjacent said supporting connector and parallel to said surface when said first body is mounted thereto, said supporting connector including a holder having a bite defined by a bent portion bent at an acute angle to said generally flat planar portion, said bite configured to receive therein said surface of said foot such that said surface of said foot

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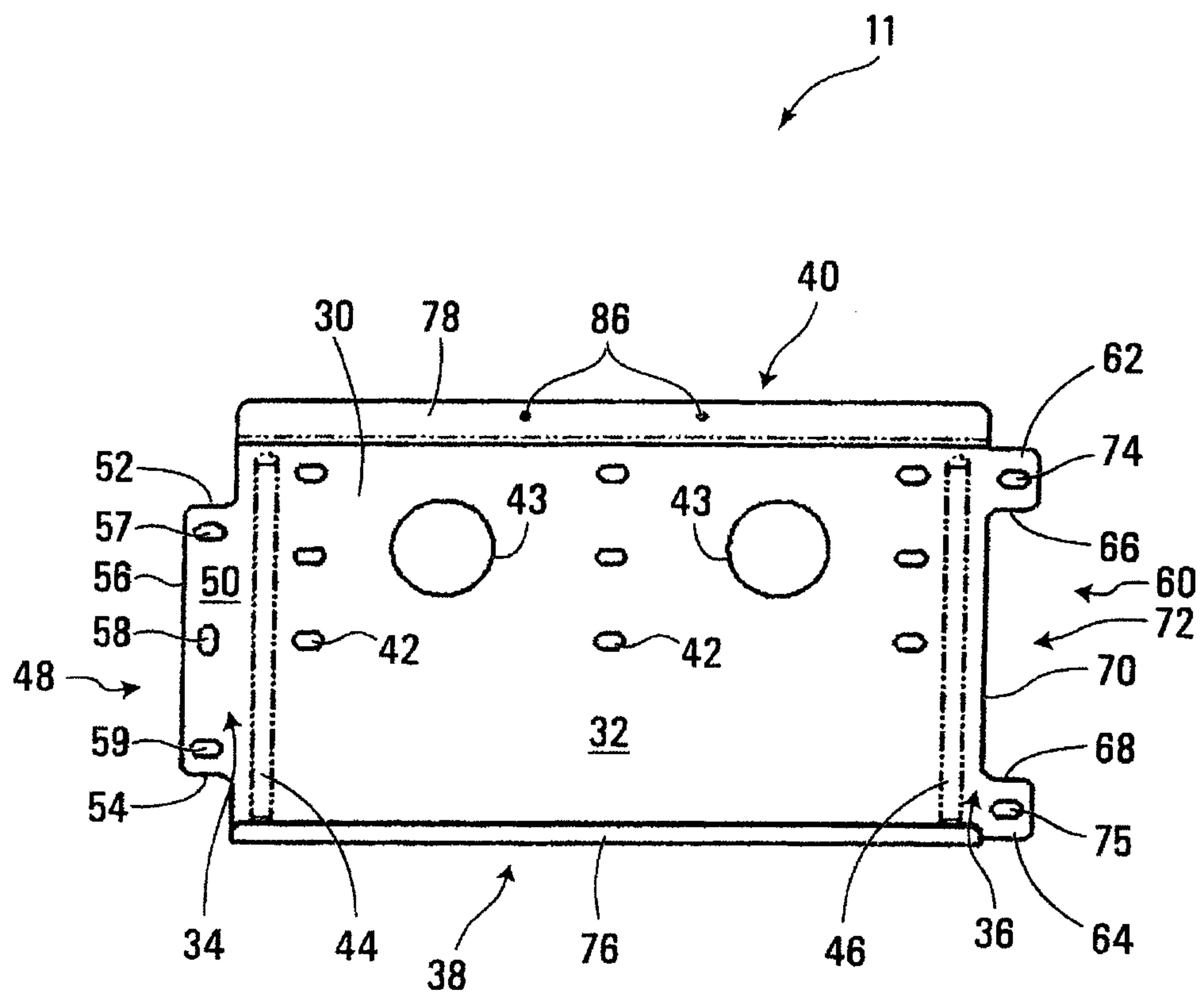
is generally parallel to said generally flat planar portion when said first body is mounted thereto, said bent portion angled toward said generally flat planar portion, a stabilizer generally spaced apart from and generally parallel to said supporting connector, operably configured to cooperate with the object to stabilize the object into a stationary position in cooperation with said supporting connector; and

first and second spaced apart guides on said first and second opposite sides of said first body and each including an opening for mounting said first body directly to said surface, wherein said stabilizer includes a flange having an angled portion at an acute angle to the generally flat planar portion, said angled portion including an opening for receiving therethrough a fastener for fastening said object to said first body, said angled portion extending away from a top edge of said generally flat planar portion.

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**FIG. 1**

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**FIG. 2**

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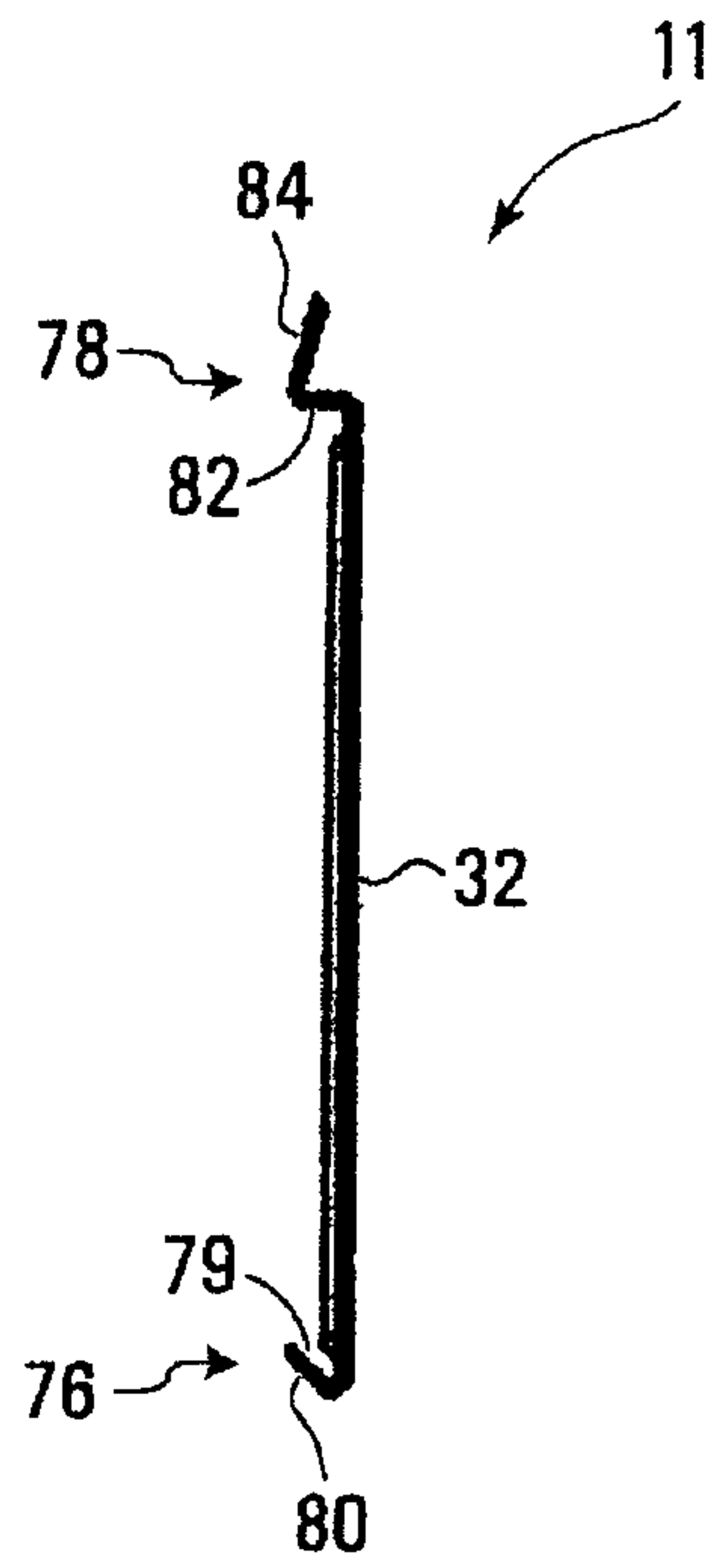


FIG. 3

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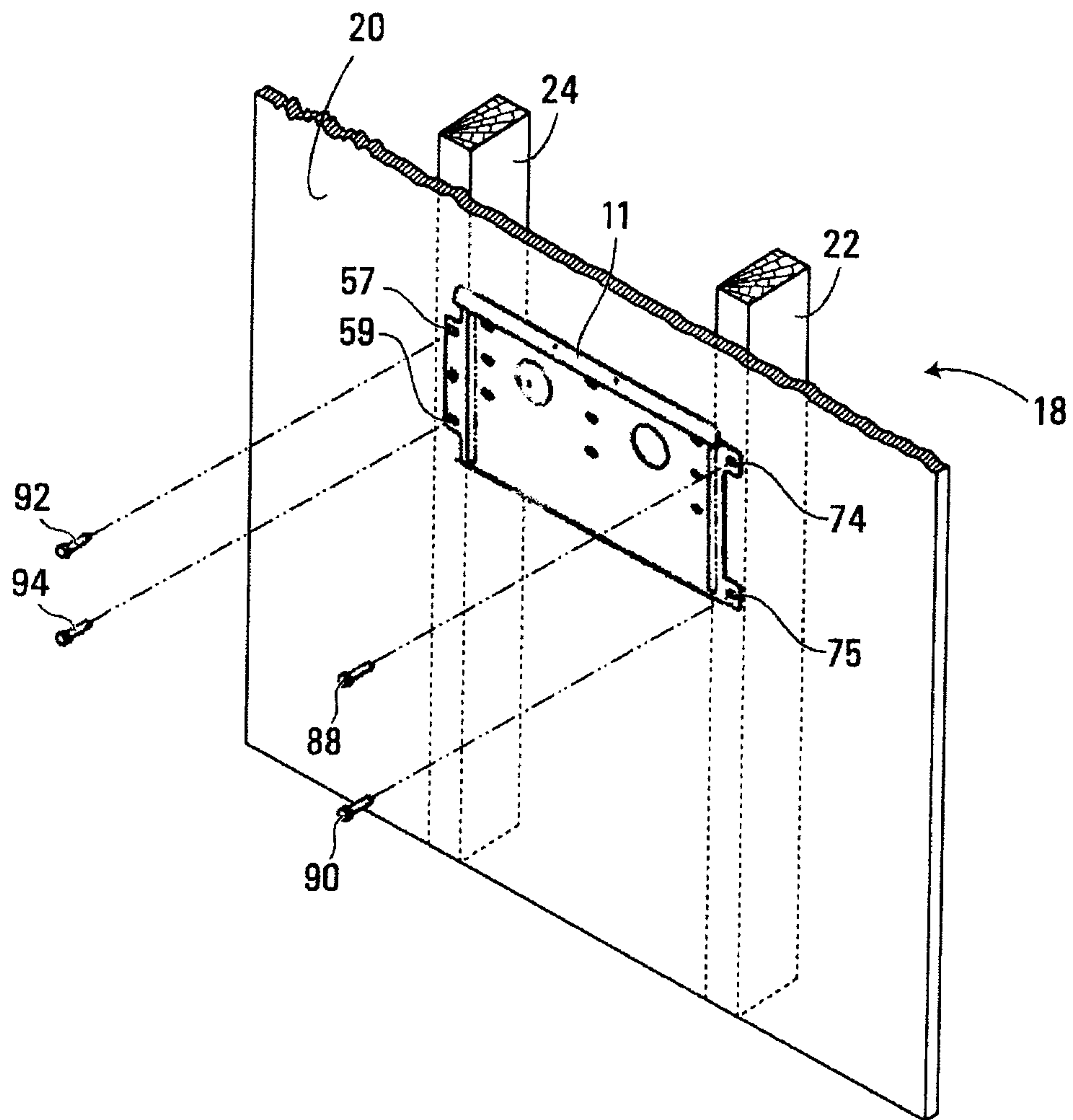
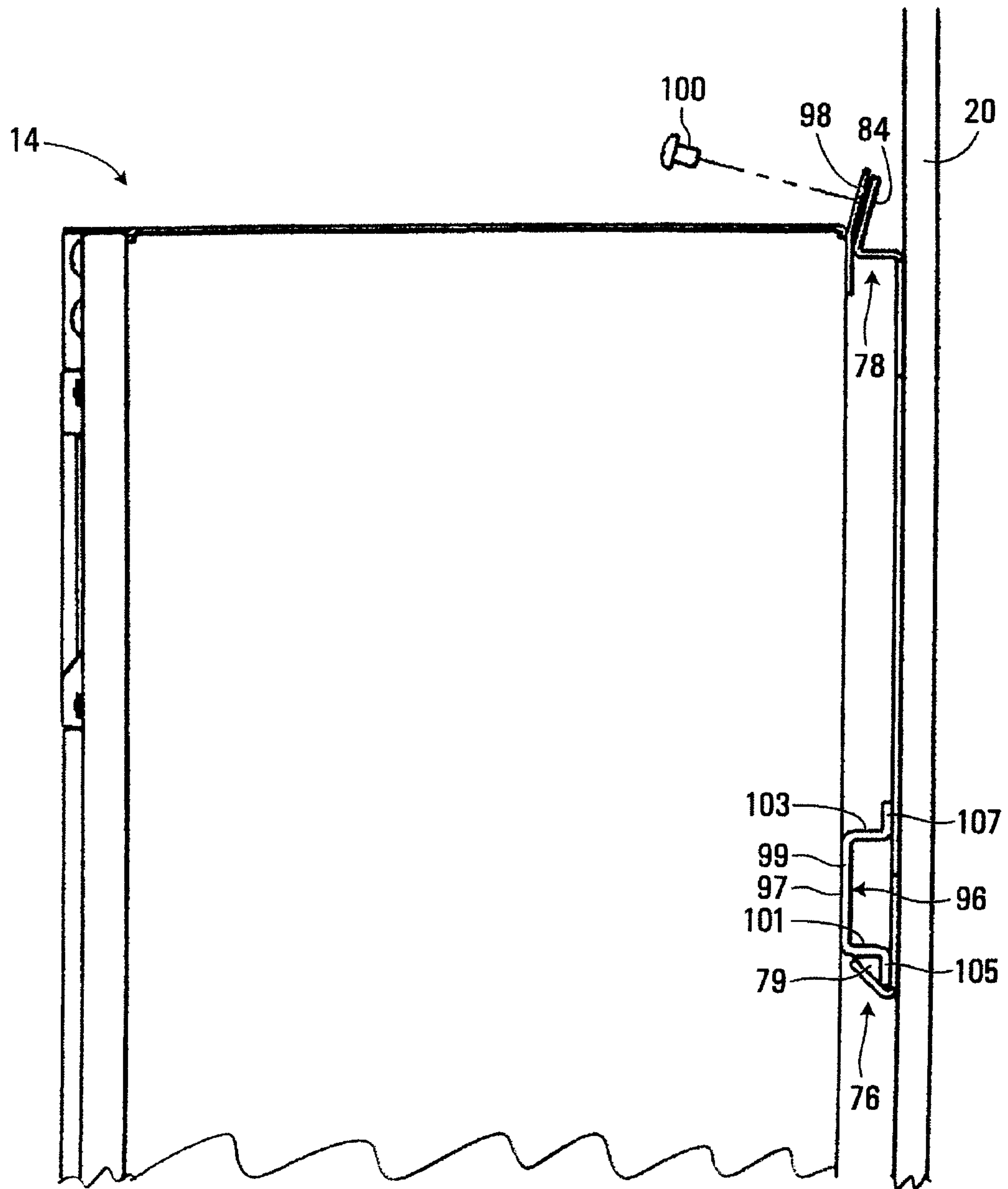


FIG. 4

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**FIG. 5**

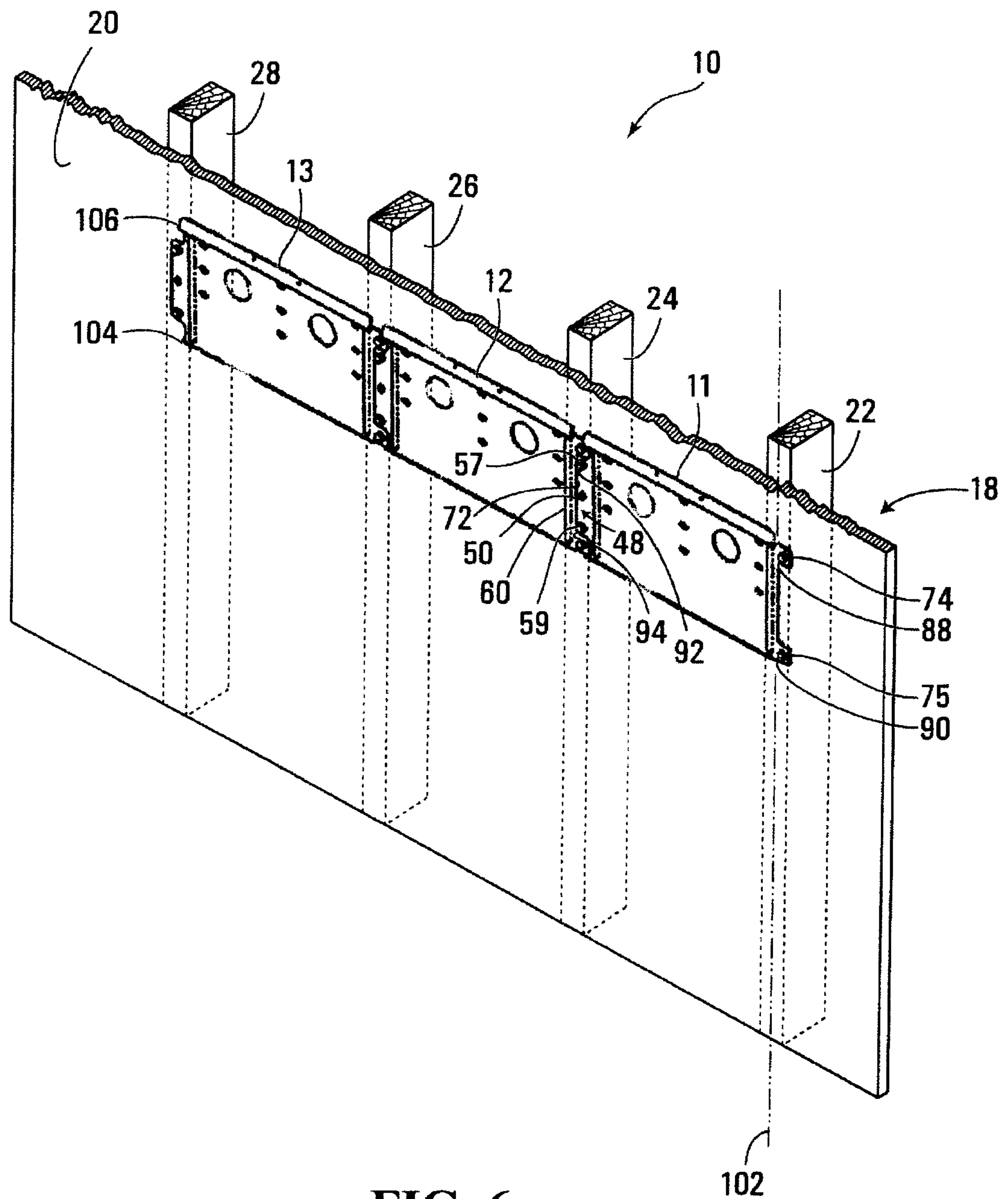


FIG. 6

