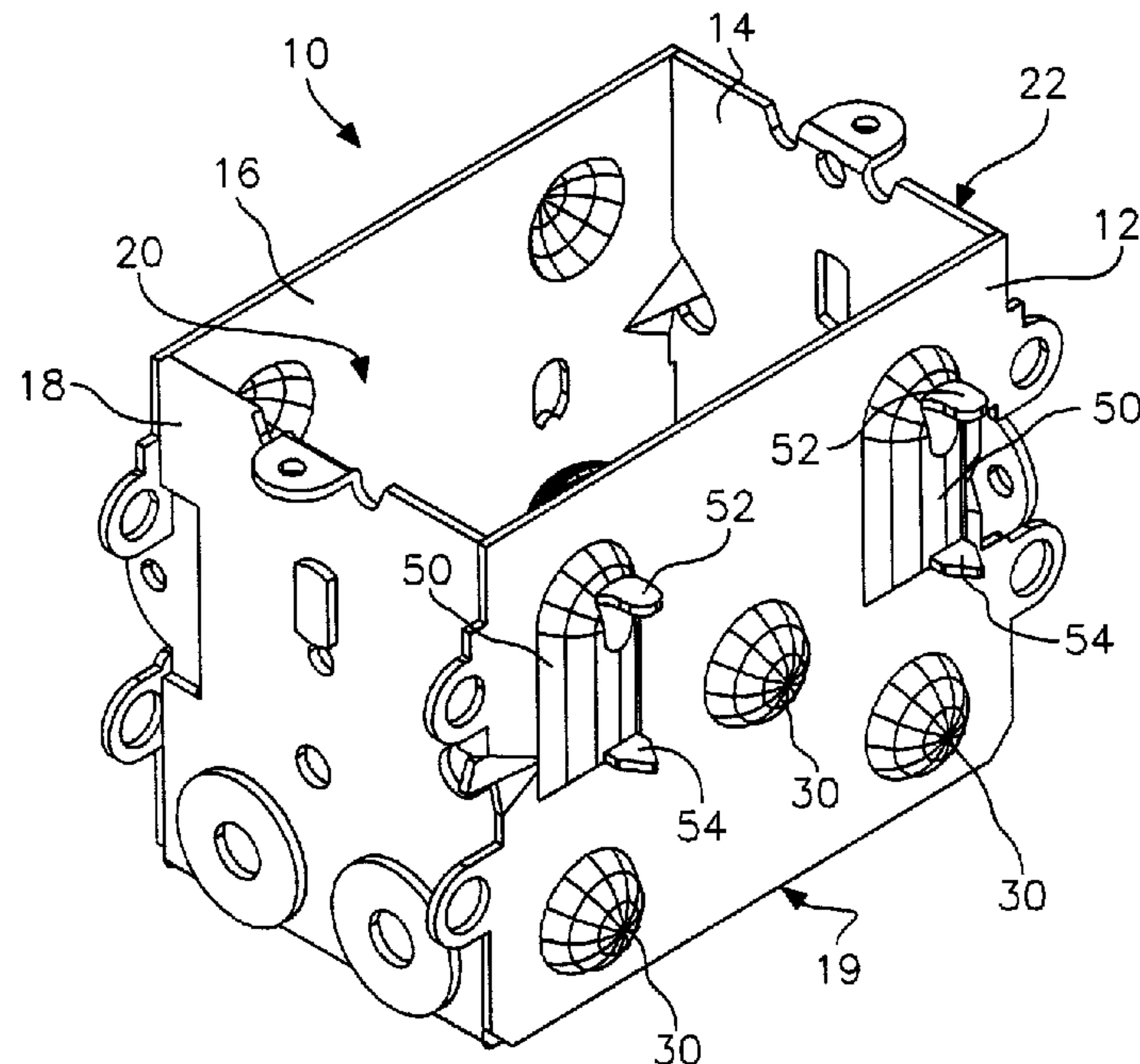


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(54) **BOITE DE DISPOSITIF ELECTRIQUE**  
(54) **ELECTRICAL DEVICE BOX**



(57) The electrical device box comprises four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a generally rectangular housing having a front opening delimited by an edge. The box comprises a set of first tabs outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure. The first tabs are spaced apart and at an equal distance from the edge of the front opening for providing alignment of the box with a front surface of the supporting structure. The box also comprises a set of second tabs outwardly projecting from the same side wall. The second tabs are spaced-apart and at an equal distance from the edge of the front opening but farther from it than the first tabs. The second tabs have a sharp end for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure. The present box is more versatile than the precedent ones.

## ABSTRACT

The electrical device box comprises four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a generally rectangular housing having a front opening delimited by an edge. The box comprises a set of first tabs outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure. The first tabs are spaced apart and at an equal distance from the edge of the front opening for providing alignment of the box with a front surface of the supporting structure. The box also comprises a set of second tabs outwardly projecting from the same side wall. The second tabs are spaced-apart and at an equal distance from the edge of the front opening but farther from it than the first tabs. The second tabs have a sharp end for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure. The present box is more versatile than the precedent ones.

**ELECTRICAL DEVICE BOX****FIELD OF THE INVENTION**

5        The present invention relates to an improvement to the structure of a conventional electrical device box. The electrical device box is a generic term for boxes such as electrical outlet boxes, electrical wiring boxes or any similar box used for installing electrical equipments and  
10      connections, especially into a building or dwelling.

**BACKGROUND OF THE INVENTION**

15      Electrical device boxes are extensively used in buildings and dwellings. Such boxes, usually made of metal, are fixed to a supporting structure such as the lateral side of a wood stud or the like.

20      It is a common practice to provide the boxes with side tabs outwardly projecting therefrom to form some kind of stop means that can be used to align the box with respect to a front surface of the supporting structure. However, no such box was versatile enough to be used either with a stud, or with a stud covered by a furring or by a similar element.

25      **SUMMARY OF THE INVENTION**

30      The object of the present invention is to provide an electrical device box which is versatile enough to be used either with a stud, or with a stud covered by a furring or by a similar element.

35      In accordance with the invention, this object is achieved with an electrical device box comprising:

four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a generally rectangular housing having a front opening delimited by an edge;

a set of first tabs outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure, the first tabs being spaced apart and at an equal distance from the edge of the front opening for providing alignment of the box with a front surface of the supporting structure; and

5 a set of second tabs outwardly projecting from the side wall provided with the first tabs, the second tabs being spaced apart and at an equal distance from the edge of the front opening but farther from it than the first tabs, the second tabs having a sharp end for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

10 In accordance with the invention, the object may still be achieved with an electrical device box comprising: four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a generally rectangular housing having a front opening delimited by an edge;

15 20 25 at least three bumps outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure, the bumps defining a resting plane substantially parallel to the corresponding side wall;

30 35 a set of first tabs outwardly projecting from the side wall provided with the bumps, the first tabs being spaced apart and at an equal distance from the edge of the front opening, the first tabs having a height extending above the resting plane for providing alignment of the box with a front surface of the supporting structure; and

a set of second tabs outwardly projecting from the side wall provided with the bumps and the first tabs, the second tabs being spaced apart and at an equal distance from the edge of the front opening but 5 farther from it than the first tabs, the second tabs having a sharp end and a height extending above the resting plane for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing 10 alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

In accordance with the invention, the object may still be achieved with an electrical device box comprising: 15 four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a generally rectangular housing having a front opening delimited by an edge; three hemispherical bumps outwardly projecting from one 20 of the side walls which is to be set against a side of an adjacent supporting structure, the bumps defining a resting plane substantially parallel to the corresponding side wall; two spaced-apart substantially oblong bumps outwardly 25 projecting from the side wall provided with the hemispherical bumps, each oblong bump having one end adjacent to the edge of the front opening; two first tabs, each outwardly projecting from and punched out of a corresponding oblong bump, the first tabs being at an equal distance from the edge of the front opening, the first tabs having 30 a height extending above the resting plane for providing alignment of the box with an outward surface of the supporting structure, the distance between each of the first tabs and the edge of the 35

front opening being substantially equal to a drywall thickness; and

5 two second tabs, each outwardly projecting from and punched out of a corresponding oblong bump, the second tabs being at an equal distance from the edge of the front opening but farther from it than the first tabs, the second tabs having a sharp end and a height extending above the resting plane for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

10 A non restrictive description of a preferred

15 embodiment will now be given with reference to the appended drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

20 FIG. 1 is a front perspective view of the electrical device box according to a preferred embodiment of the present invention.

FIG. 2 is an outside perspective view of the right side wall of the box shown in FIG. 1.

25 FIG. 3 is an inside perspective view of the side wall shown in FIG. 2.

FIG. 4 is a front perspective view of the box shown in FIG. 1, which is fixed to an adjacent integral supporting structure comprising a stud.

30 FIG. 5 is a front perspective view of the box shown in FIG. 1, which is fixed to an adjacent composite supporting structure comprising a stud and a furring.

## DESCRIPTION OF A PREFERRED EMBODIMENT

The electrical device box (10) is usually made of  
5 metal, although other materials such as plastic are also  
suitable. It basically comprises four side walls  
(12,14,16,18) and a rear wall (19). Each side wall is  
connected to an adjacent side wall and to the rear wall (19)  
for defining a generally rectangular housing having a front  
10 opening (20) delimited by a front edge (22).

In one possible embodiment, there are provided at  
least three hemispherical bumps (30) outwardly projecting  
from one of the side walls. Similar bumps may also be  
provided on other side walls. The present side wall (12) is  
15 designed to be set against a side of an adjacent supporting  
structure, such as the ones in FIGS. 4 and 5. It should be  
also possible to provide no bumps (30) and resting the side  
wall (12) directly on the supporting member if necessary.  
Additionally, the bumps (30) may have another shape than  
20 hemispherical. The peaks of the bumps (30) are defining  
together a resting plane substantially parallel to the side  
wall (12).

It is possible to further provide two spaced-apart  
oblong bumps (50) outwardly projecting from the side wall  
25 (12). The oblong bumps (50) are perpendicular to the edge  
(22) and have an end which is adjacent thereto. Each oblong  
bump (50) bears one of the first tabs (52), each outwardly  
projecting from and punched out of it. The first tabs (52)  
are at an equal distance from the edge (22) for ensuring  
30 proper alignment of the box (10). Alternatively, the box  
(10) may be provided without oblong bumps (50) and the first  
tabs (52) are then punched out of the side wall (12)  
directly.

The height of the first tabs (52) has to extend  
35 above the resting plane. Once in place, the first tabs (52)  
are provide alignment of the box (10) with the outward

surface of the supporting structure, as shown in FIGS. 4 and 5. By setting the distance between each of the first tabs (52) and the edge (22) substantially equal to a drywall thickness, it is possible to install the box (10) long 5 before the drywall and still have the box (10) at the right location.

The present invention also provides a set of second tabs (54), each outwardly projecting from and punched out of a corresponding oblong bump (50) under its first tab 10 (52). The second tabs (54) are at an equal distance from the edge (22) but farther from it than the first tabs (52).

Because of their particular position, the second tabs (54) have a sharp end. If the bumps (30) are present, the height of the second tabs (54) extend above the resting 15 plane. The second tabs (54) may then either penetrate the side of the stud (40) in case of an integral supporting structure, as shown in FIG. 4, or providing alignment of the box (10) with an intermediate surface between the elements 20 in case of a composite supporting structure, such as a stud (40) and furring (42) composite supporting structure 42 shown in FIG. 5.

As it can be understood, the second tabs (54) may also be punched out of the side wall (12) directly. When used with an integral supporting structure such as the stud 25 (40) shown in FIG. 4, the sharp end of the second tabs (54) penetrates the stud (40) and holds the box (10) in place until one or more screws or nails are used. Among the holes in which the screws or nails can be inserted, there are 30 holes left by the punching of the first and second tabs (52,54) which are very convenient, especially the holes (55), shown in FIG. 3, left by the second tabs (54) in an optional inclined flat end of the oblong bumps (50). Preferably, the flat ends are inclined of 45°.

Although preferred embodiments of the invention 35 have been described in detail herein and illustrated in the accompanying drawings, it is to be understood that the

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invention is not limited to these precise embodiments and that various changes and modifications may be effected therein without departing from the scope or spirit of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An electrical device box comprising:

four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a rectangular housing having a front opening delimited by an edge;

10 a set of first tabs outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure, the first tabs being spaced apart and at an equal distance from the edge of the front opening for providing alignment of the box with a front surface of the supporting structure; and

a set of second tabs outwardly projecting from the side wall provided with the first tabs, the second tabs being spaced apart and at an equal distance from the edge of the front opening but farther from it than the first tabs, the second tabs having a sharp end for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

20 2. An electrical device box according to claim 1, wherein the first and second tabs are punched out of the corresponding side wall.

30 3. An electrical device box according to claim 1 or 2, wherein the distance between the first tabs and the edge of the front opening is equal to a drywall thickness.

4. An electrical device box comprising:

four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a rectangular housing having a front opening delimited by an edge;

at least three bumps outwardly projecting from one of the side walls which is to be set against a side of an adjacent supporting structure, the bumps defining a resting plane parallel to the corresponding side wall;

10 a set of first tabs outwardly projecting from the side wall provided with the bumps, the first tabs being spaced apart and at an equal distance from the edge of the front opening, the first tabs having a height extending above the resting plane for providing alignment of the box with a front surface of the supporting structure; and

a set of second tabs outwardly projecting from the side wall provided with the bumps and the first tabs, the second tabs being spaced apart and at an equal distance from the edge of the front opening but farther from it than the first tabs, the second tabs having a sharp end and a height extending above the resting plane for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

5. An electrical device box according to claim 4, wherein the first and second tabs are punched out of the corresponding side wall.

6. An electrical device box according to claim 30 4 or 5, wherein the distance between each of the first tabs

and the, edge of the front opening is equal to a drywall thickness.

7. An electrical device box according to anyone of claims 4 to 6 wherein the bumps are hemispherical and are three in number.

8. An electrical device box according to anyone of claims, 4 to 7, wherein the first and second tabs are provided in pairs, the tabs of each pair being aligned with each other.

10 9. An electrical device box according to claim 8 wherein the pairs are two in number.

10. An electrical device box according to anyone of claims 4 to 9, further comprising oblong bumps, the first and second tabs being punched out of the oblong bumps.

11. An electrical box according to claim 10, wherein the oblong bumps have a flat inclined end opposite the edge of the front opening, each of the second tabs being punched out of a respective flat end for leaving an inclined opening through which a fastening means is 20 insertable for holding the box to the supporting structure.

12. An electrical device box comprising:  
four side walls and a rear wall, each side wall being connected to an adjacent side wall and to the rear wall for defining a rectangular housing having a front opening delimited by an edge;

three hemispherical bumps outwardly projecting from one of the side walls which is to be set against a

side of an adjacent supporting structure, the bumps defining a resting plane parallel to the corresponding side wall;

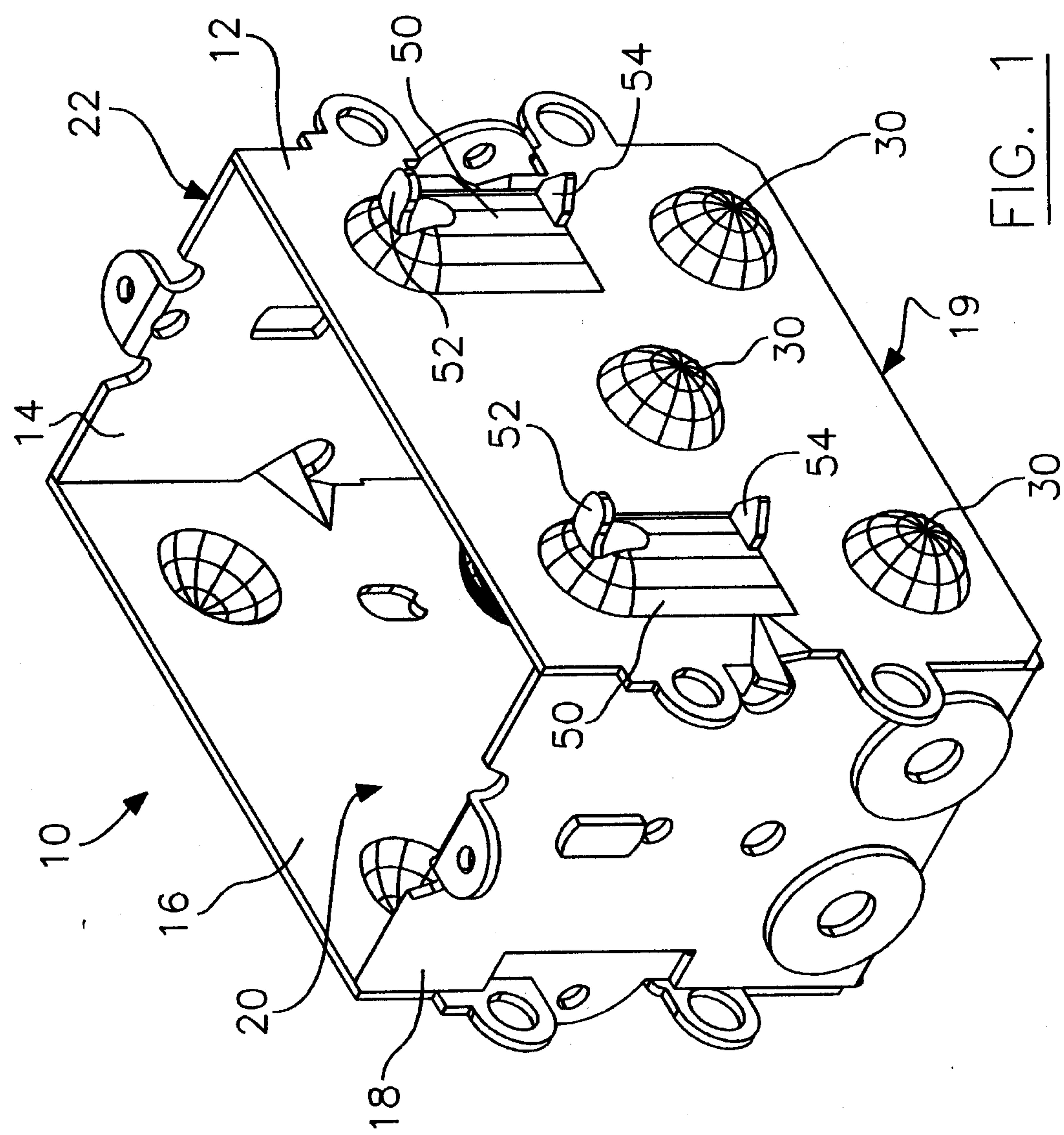
two-spaced-apart oblong bumps outwardly projecting from the side wall provided with the hemispherical bumps, each oblong bump having one end and adjacent to the edge of the front opening;

10 two first tabs, each outwardly projecting from and punched out of a corresponding oblong bump, the first tabs being at an equal distance from the edge of the front opening, the first tabs having a height extending above the resting plane for providing alignment of the box with a front surface of the supporting structure, the distance between each of the first tabs and the edge of the front opening being equal to a drywall thickness; and

20 two second tabs, each outwardly projecting from and punched out of a corresponding oblong bump, the second tabs being at an equal distance from the edge of the front opening but farther from it than the first tabs, the second tabs having a sharp end and a height extending above the resting plane for either penetrating the side of the supporting structure in case of an integral supporting structure, or providing alignment of the box with an intermediate surface between elements in case of a composite supporting structure.

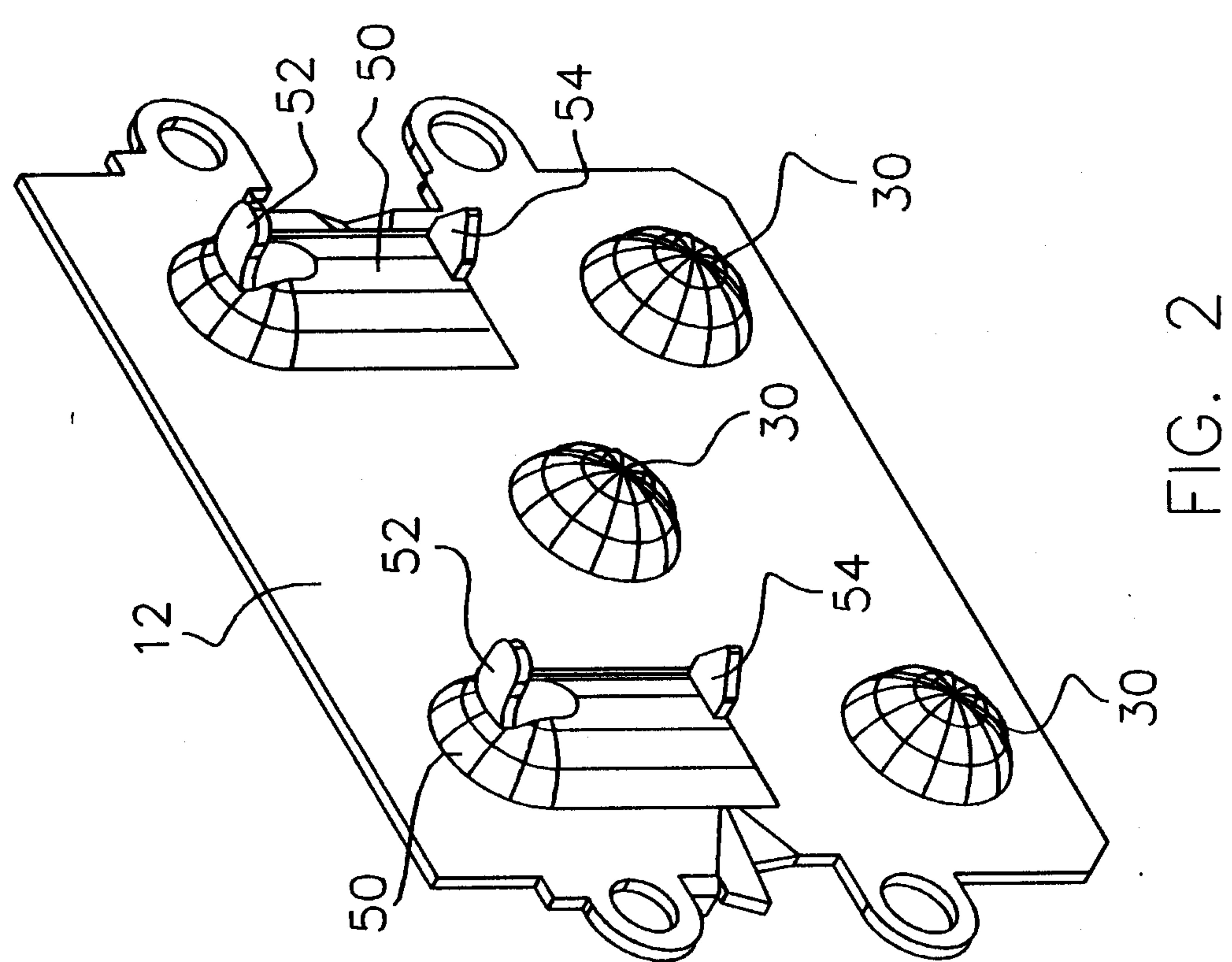
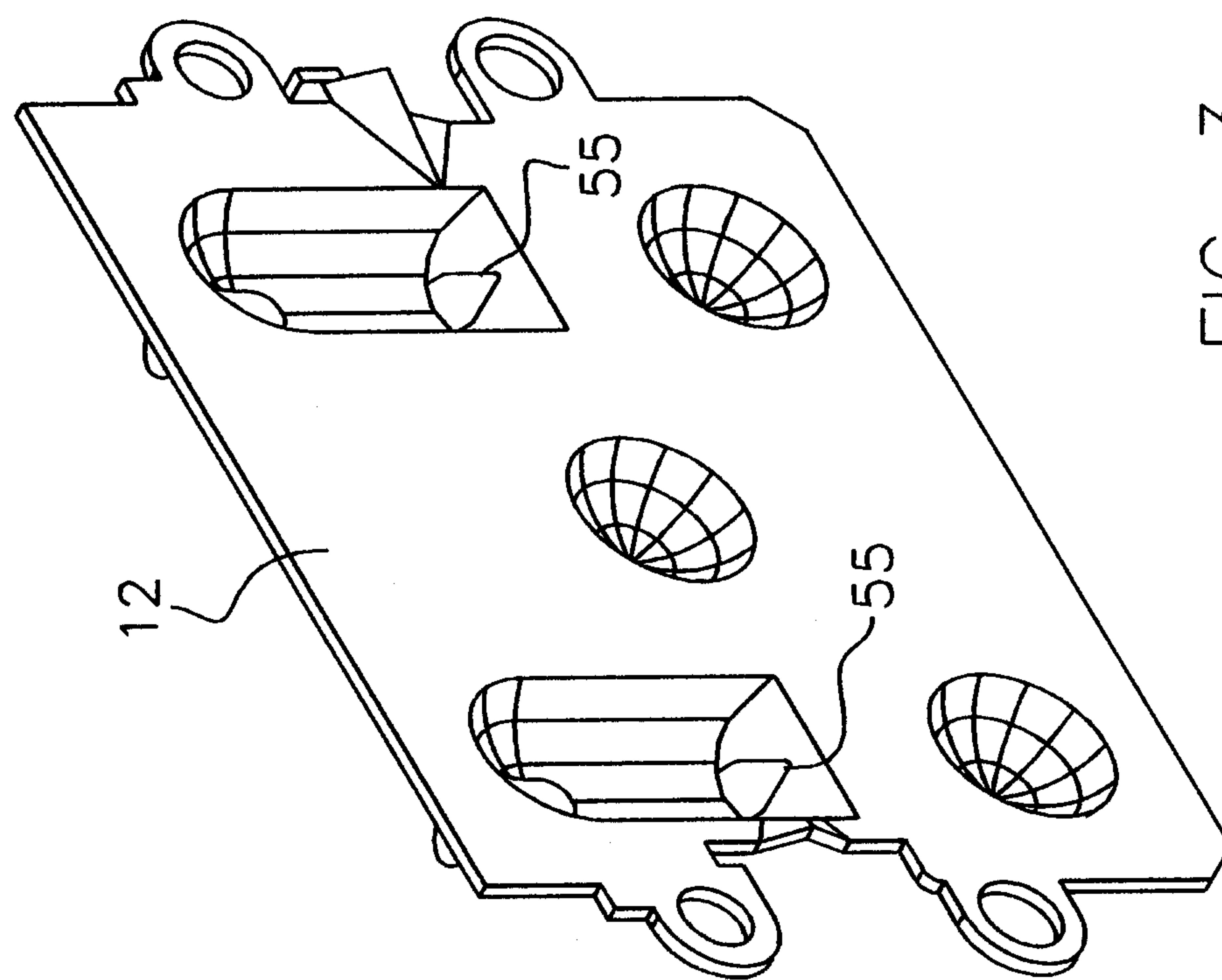
13. An electrical device box according to claim 12, wherein the oblong bumps have a flat inclined end opposite the edge of the front opening, each of the second tabs being punched out of a respective flat end for leaving 30 an inclined opening through which a fastening means is insertable for holding the box to the supporting structure.

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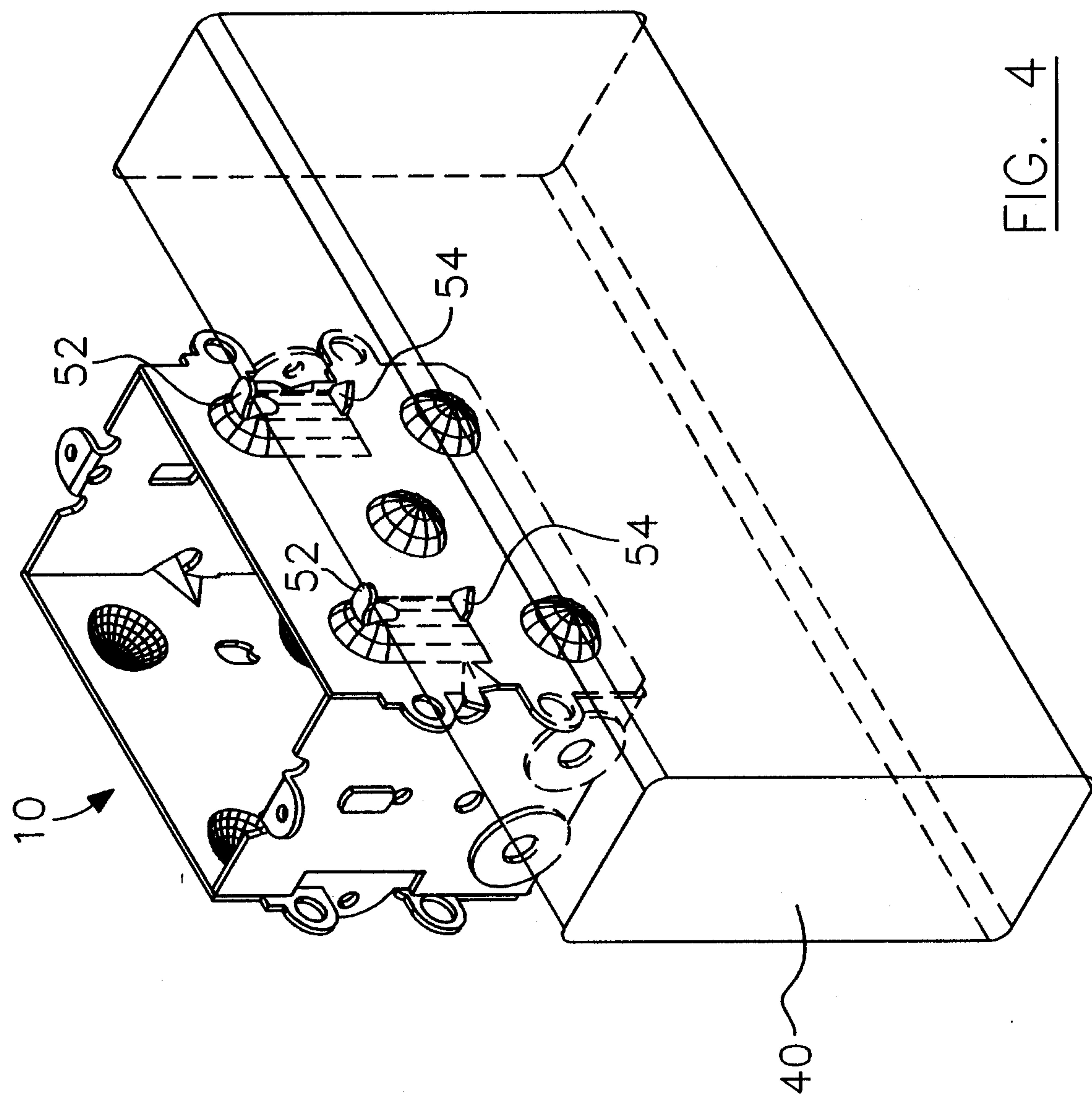


FIG. 4

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