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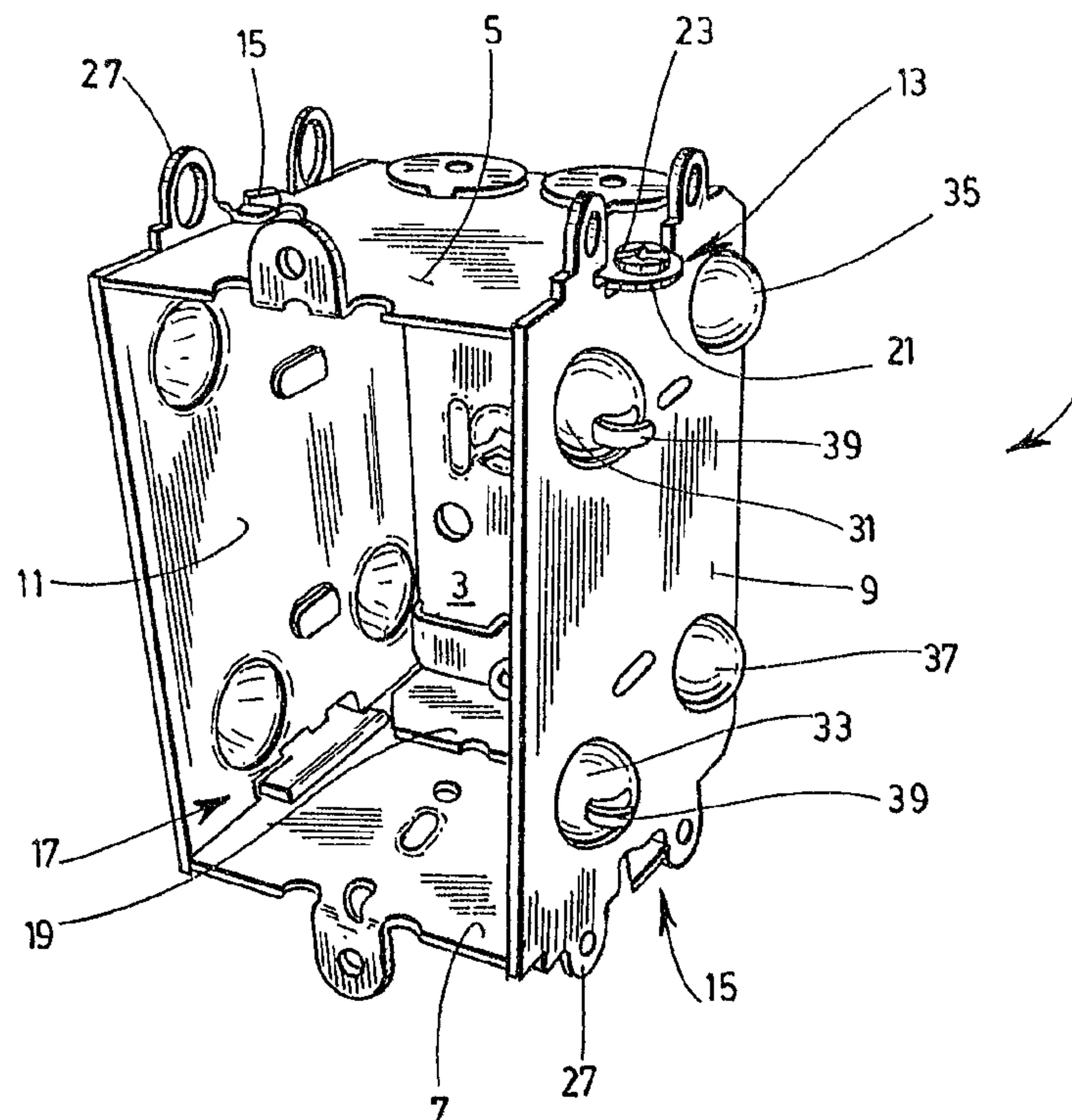
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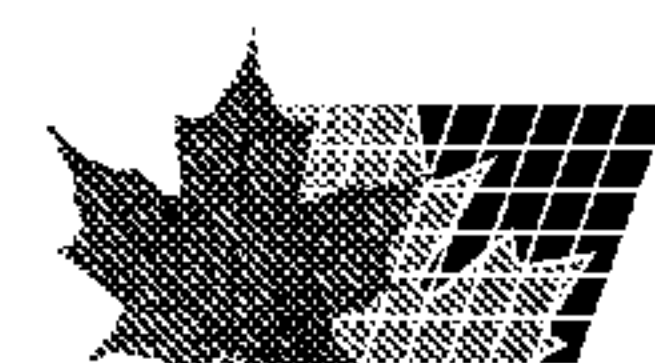
(54) Titre : BOITIER ELECTRIQUE A BOSSAGES ET LANGUETTES COMBINES

(54) Title: ELECTRICAL DEVICE BOX WITH COMBINED BUMP AND TAB ASSEMBLIES



(57) Abrégé/Abstract:

Disclosed is an electrical device box of the type comprising a plurality of bumps punched into and outwardly projecting from at least one side wall of the box to allow fixation of the same onto a stud with the side wall of the box extending parallel to this stud at a short distance away from the same. In accordance with the invention, a small tab is cut out on top of each of the bumps that are adjacent to the front edge of the corresponding side wall. The tabs that are so cut, are folded in such a manner as to project outwards from the chamber and form together a stop for use to align the box with respect to an edge of the supporting structure.



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ABSTRACT OF THE DISCLOSURE

Disclosed is an electrical device box of the type comprising a plurality of bumps punched into and outwardly projecting from at least one side wall of the box to allow fixation of the same onto a stud with the side wall of the box extending parallel to this stud at a short distance away from the same. In accordance with the invention, a small tab is cut out on top of each of the bumps that are adjacent to the front edge of the corresponding side wall. The tabs that are so cut, are folded in such a manner as to project outwards from the chamber and form together a stop for use to align the box with respect to an edge of the supporting structure.

ELECTRICAL DEVICE BOX WITH COMBINED
BUMP AND TAB ASSEMBLIES

The present invention is concerned with an improvement to the structure of a conventional electrical device box. By an "electrical device box", there is meant an electrical outlet box, an electrical wiring box or any similar box used for installing electrical equipments and/or connections, especially into a building or dwelling.

Most the device boxes presently available in the market basically
comprise:

a generally rectangular rear wall having upper and lower edges;
upper and lower end walls integrally projecting forwards from the upper and lower edges of the rear wall, respectively, these end walls being generally rectangular and of the same width as the rear wall, and having lateral
edges;

a pair of generally rectangular side walls each having front, rear, top and bottom edges; and

means for detachably connecting the top and bottom edges of each of the side walls to the upper and lower end walls so as to form therewith
and with the rear wall an open chamber.

The means for detachably connecting the side walls to the upper and lower end walls of the box usually comprises fingers insertable into openings and/or tabs in which screws can be threaded to lock the side walls against the lateral edges of the end walls. Most of the time, these fingers and/or
tabs laterally project outwardly at a given distance away from the side walls of the box, thereby preventing it from being properly fixed to a flat supporting structure such as the lateral side of a stud, whenever desired.

To obviate this drawback, it is of common practice to punch into at least one and preferably both side walls of the box, four or more identical

bumps in such a manner that they project outwards from the side walls at a distance at least equal to the above mentioned given distance. Then, it becomes possible to fix the box onto the flat supporting structure with the adjacent side wall of the box extending parallel to the flat supporting structure at a short distance away from the same. Generally, the bumps are positioned onto each rectangular side wall in such a manner as to define together at least one rectangle having sides parallel to the edges of this side wall.

It is also of common practice to cut and shape the front edges of the side walls or the front portion of the lateral edges of the end walls in such a manner as to define prongs or tabs that are folded laterally outwardly to form some kind of stop means that can be used to align the box with respect to an edge of the supporting structure, such as the front edge of a stud.

Both of these features, i.e. the leveling bumps and stopping tabs, are very convenient for the users of the box. However, in practice, they cannot be combined in a structurally efficient manner onto the same box, because the thickness of the bumps make it necessary for the tabs to be very long as they must extend over the bumps which altogether define a leveling surface parallel to the corresponding side wall. This in turn causes the tabs to be very big in size in order to be structurally resistant when folded in useful position, thereby making it necessary to use metal sheet of greater surface area to manufacture the side walls.

The object of the present invention is to provide an improved device box which incorporates leveling bumps and stopping tabs and yet does not suffer from the above mentioned drawbacks.

In accordance with the invention, this object is achieved with an electrical device box of the type mentioned hereinabove, including at least four identical bumps punched into and outwardly projecting from at least one of its side walls to allow fixation of the box onto a flat supporting structure with the at least one side wall extending parallel to the flat supporting structure at a short

distance away from the same, the bumps defining together at least one rectangle having sides parallel to the edges of the corresponding side wall, wherein a small tab is cut out on top of each of the bumps that are adjacent to the front edge of the at least one side wall, the tabs that are so cut, being folded
5 in such a manner as to project outwards from the chamber and form together the required stopping means for use to align the box with respect to an edge of the supporting structure.

Since the tabs are cut out on top of the bumps, they necessarily project outwardly from the same, even if they are very short. Accordingly, their
10 size and length are no more dependent on the thickness of the bumps.

Preferably, the tabs are oblong in shape and project out from the tops of the bumps at substantially the same distance as the bumps projects out from the side wall.

A non restrictive, preferred embodiment of the invention will now
15 be described with reference to the accompanying drawing in which:

Figure 1 is a front perspective view of a device box according to the invention;

Figure 2 is a perspective view of a side wall of the box shown in Figure 1, having bumps and tabs projecting from the bumps; and

20 Figure 3 is a top plan view of the box shown in Figure 1, fixed to the lateral wall of a stud.

The electrical device box 1 according to the invention as shown in Figure 1, is made of metal sheet. It basically comprises:

a generally rectangular rear wall 3 having upper and lower edges;
25 upper and lower end walls 5, 7 integrally projecting forwards from the upper and lower edges of the rear wall 3, respectively, these end walls 5, 7 being generally rectangular and of the same width as the rear wall and having lateral edges;

a pair of generally rectangular side walls 9, 11, each having front,

rear, top and bottom edges; and

means 13, 15 for detachably connecting the top at bottom edges of each of the side walls 9, 11 to the upper and lower end walls 5, 7 so as to form therewith and with the rear wall 3 an open chamber 17 that can be
5 provided internally with fixation means 19 for wires or other electrical equipments.

As aforesaid, the connecting means 13 may consist of tabs 21 projecting laterally outwardly from the lateral edges of the end walls and in which screws 23 may be threaded to lock the corresponding side wall. The
10 connecting means 15 may consist of fingers 25 projecting from either the side walls or the end walls, for inserting into slots or openings made in the adjacent wall. These connecting means and the way they operate are well known in this art and need not be further described.

The top and bottom edges of the side walls may be provided with
15 fixation tabs 27 to facilitate fixation of the box 1 to an adjacent supporting structure such as a stud 29 (see Figure 3). Once again, this feature is well known and needs not be further described.

As is better shown in Figure 2, at least one and preferably both side walls 9, 11 are provided with bumps 31, 33, 35, 37 that are preferably
20 substantially hemispherical and identical in shape. The bumps that are preferably four in number, are punched into and outwardly project from the side walls 9, 11 to allow fixation of the box onto a flat surface of the supporting structure 29 (see Figure 3) with one of the side walls extending adjacent and parallel to this flat surface at a short distance away from the same.

25 As clearly shown in Figure 2, the bumps 31, 33, 35, 37 define together a rectangle having sides parallel to the edges of the rectangular side wall into which they are punched.

Assuming that the tabs 21 used to detachably connect the side walls 9, 11 to the end walls 5, 7, projects laterally outwardly at a given distance

"d" away from the side walls of the box (see Figure 3), it is of course compulsory that this given distance "d" be smaller than the short distance "D" resulting from the presence of the bumps between the one side wall and the supporting structure 29 when the box 1 is fixed onto this supporting structure, 5 in order to achieve a proper leveling of the box onto the flat surface of this supporting structure.

In accordance with the invention, a small tab 39 is cut out on top of each of the bumps that are adjacent to the front edge of at least one of the side walls, such as bumps 31 and 33 of wall 9. The tabs 39 that are so cut, are 10 folded in such a manner as to project outwardly from the chamber 17 and form together a stopping means for use to align the box with respect to an edge 41 of the supporting structure 29 (see Figure 3).

As can be seen, the tabs 39 are preferably oblong in shape and project out from the tops of the bumps at substantially the same distance as 15 said bumps projects out from the side wall.

Although, in practice, each of the side walls 9, 11 may have bumps, only one of these side walls, say wall 9, need have tabs 39 cut out in its two bumps 31, 33 close to its front edge. Indeed, in most cases, the box is designed to be reversible, thereby making it installable upside down if desired.

20 As can be understood, the leveling bumps and tabs can be made in the existing side wall that are usually made of galvanized steel material. First, the bumps are made by stretching the steel when the forming punch goes in the die. Then as a second operation, a cutting punch, that has an oblong shape, cuts the material on top of the bumps all the way around except on one 25 side where the steel is used for holding the tab perpendicular to the surface of the side. The tab 39 may then be used as a mean of support for locating the box 1 on the stud 29.

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

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1. In an electrical device box of the type comprising:
a generally rectangular rear wall having upper and lower edges;
upper and lower end walls integrally projecting forwards from the
upper and lower edges of the rear wall, respectively, said end walls being
10 generally rectangular and of the same width as the rear wall;

a pair of generally rectangular side walls each having front, rear,
top and bottom edges;

means for detachably connecting the top and bottom edges of
each of the side walls to the upper and lower end walls so as to form therewith
15 and with the rear wall an open chamber; and

at least four identical bumps punched into and outwardly
projecting from at least one side wall to allow fixation of the box onto a flat
supporting structure with said at least one side wall extending parallel to said
flat supporting structure at a short distance away from the same, said bumps
20 defining together at least one rectangle having sides parallel to the edges of
said at least one rectangular side wall,

the improvement wherein:

a small tab is cut out on top of each of the bumps that are
adjacent to the front edge of said at least one side wall, the tabs that are so cut
25 being folded in such a manner as to project outwards from the chamber and
form together a stopping means for use to align the box with respect to an edge
of said supporting structure.

2. The improved box of claim 1, wherein at least part of said

means for detachably connecting the side walls projects laterally outwardly at a given distance away from the side walls of the box, and

said given distance is smaller than the short distance resulting from the presence of the bumps between the one side wall and the supporting
5 structure when the box is fixed onto said supporting structure.

3. The improved box of claim 2, wherein the tabs are oblong in shape and project out from the tops of the bumps at substantially the same distance as said bumps projects out from said at least one side wall.

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4. The improved box of claim 3, wherein the bumps are substantially hemispherical and are four in number.

5. The improved box of 4, wherein each of said side walls have
15 bumps but only one of said side walls has tabs cut out in its two bumps close to its front edge.

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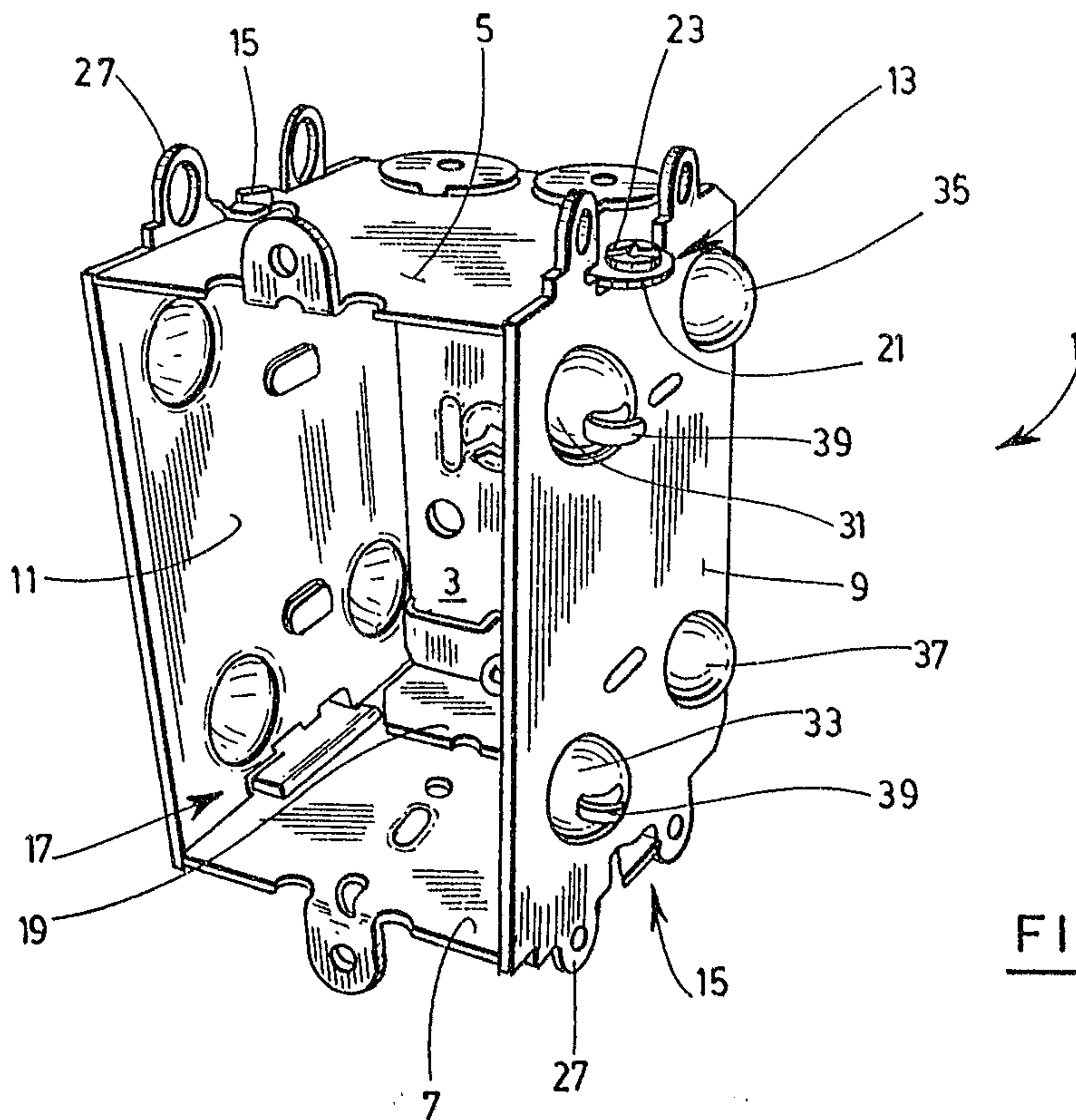


FIG. 1

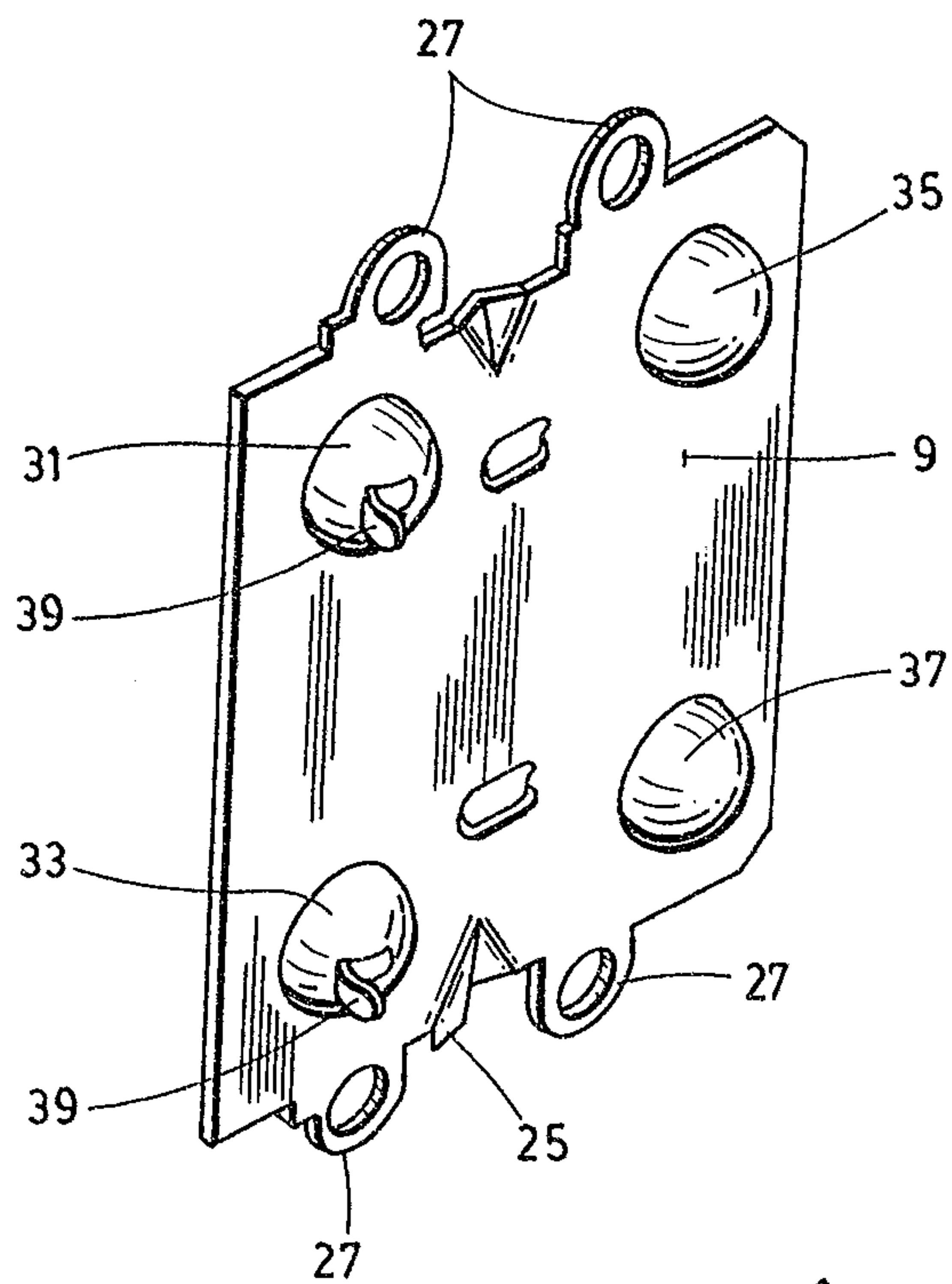


FIG. 2


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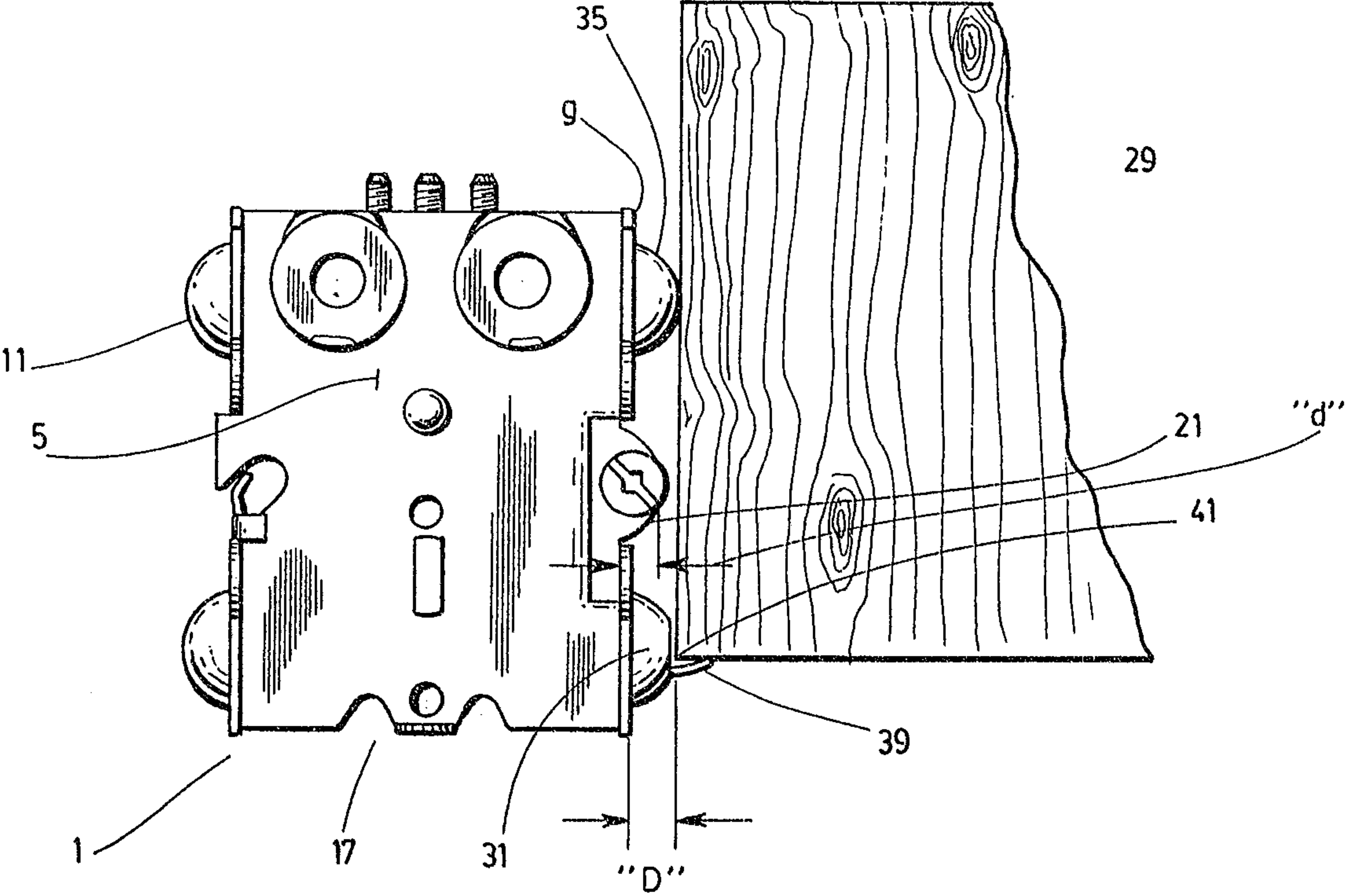


FIG. 3

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