Dec. 26, 1967 A. J. YZNAGA 3,360,151

BOX-CLAMP

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Fig. 1

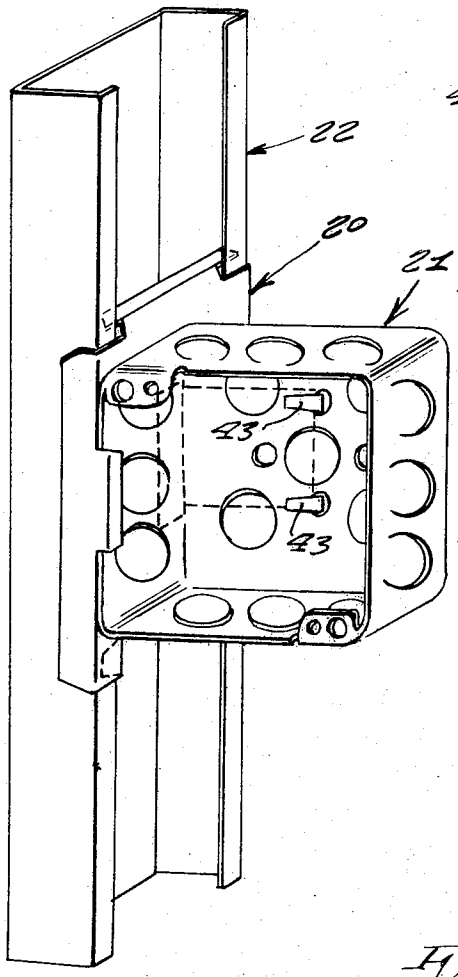


Fig. 2

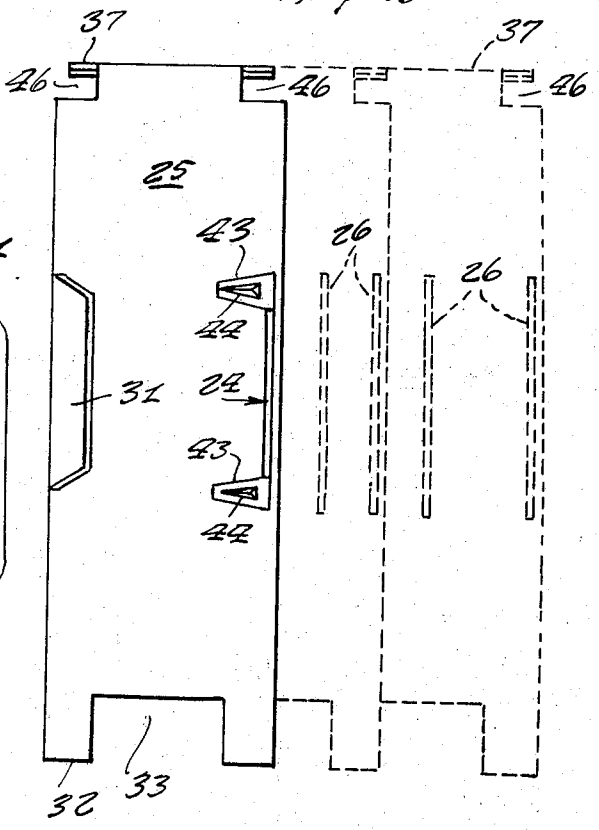


Fig. 10

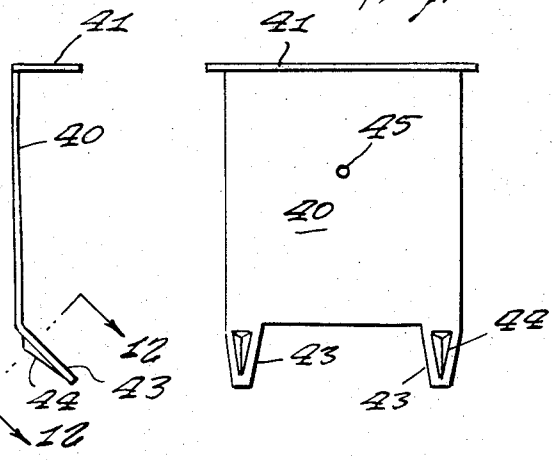


Fig. 11

Fig. 12



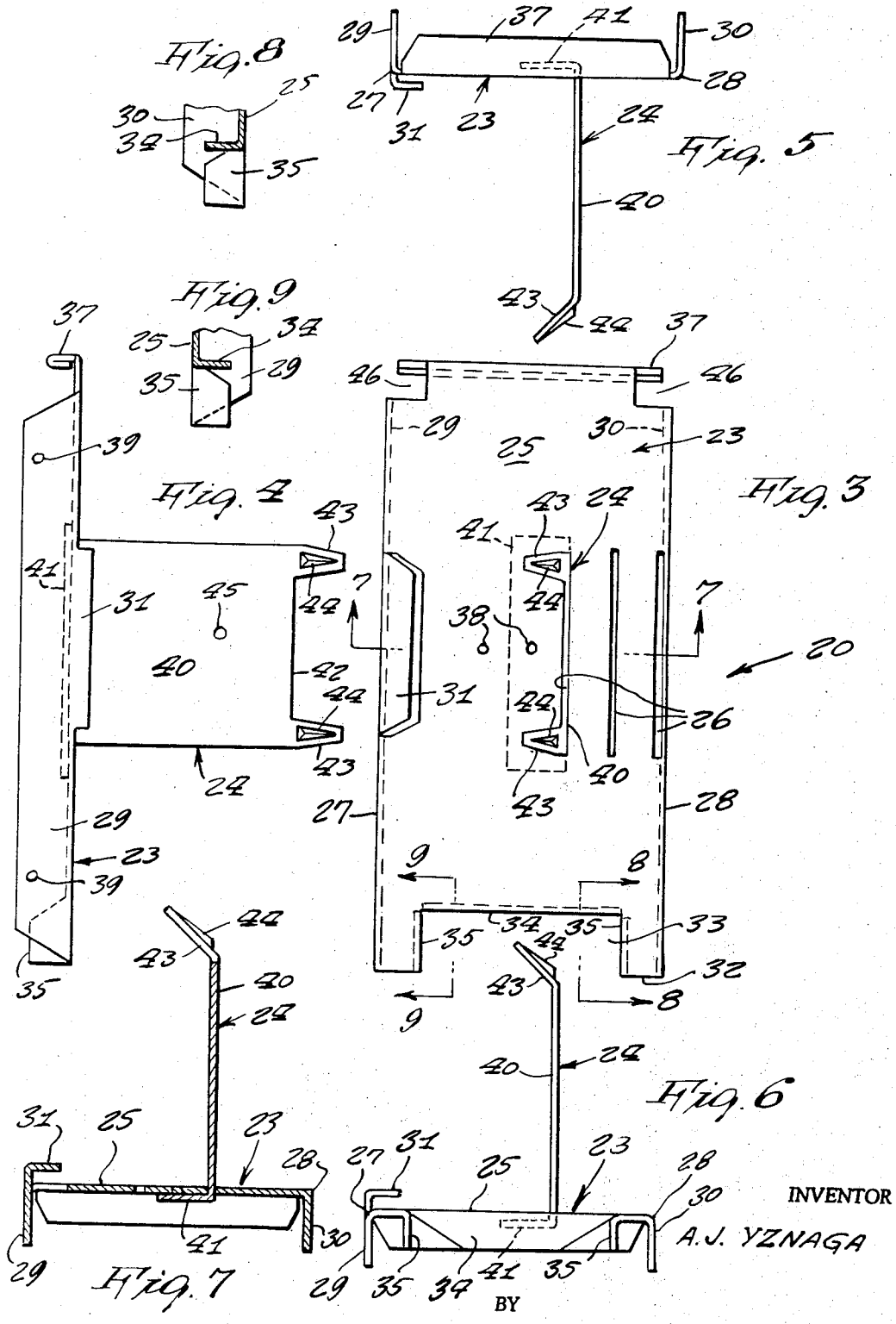
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BOX-CLAMP

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BOX-CLAMP

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ABSTRACT OF THE DISCLOSURE

An electric outlet box support comprised of a plate having an upper pair of lateral ears struck back to engage between and behind the flanges of a metal stud, side panels or flanges along its opposite edges to engage the front and rear faces of the stud, and a pair of clamp tabs at the bottom to be bent behind the stud flanges and secure the plate thereto, and a link or bracket with a lateral flange along one edge engaging a slot in the plate, and clamp tabs or ears to engage through clamp holes in the bottom of the outlet box.

This invention relates generally to electric outlet box support device. More specifically, it relates to clamp devices for supporting electric outlet boxes upon metal studs within walls.

A principal object of the present invention is to provide a novel box-clamp for efficiently securing an electric outlet box to a metal stud within the wall.

Another object is to provide a novel box-clamp which is adaptable for supporting electric outlet boxes of various different sizes and shapes, as for example square or octagonal boxes of varied dimensions.

Another object is to provide a box-clamp which is adaptable to support switch boxes commonly known as "handy boxes."

Other objects are to provide a box-clamp having the above objects, which is simple in design, inexpensive to manufacture, rugged in construction, and easy to use.

These and other objects will be readily evident upon a study of the following specification, and the accompanying drawings wherein:

FIGURE 1 is a perspective view of the present invention shown in operative use holding a square outlet box and supported on a metal stud;

FIGURE 2 is a front elevation view of a box-clamp shown in bold lines designed for a 1⅝ inch stud, and in dash lines for a 2½ and 3⅝ inch studs;

FIGURE 3 is a front elevation view of the chassis with link secured thereto;

FIGURE 4 is a side elevation view thereof;

FIGURE 5 is an end elevation view thereof;

FIGURE 6 is an opposite end elevation view thereof;

FIGURE 7 is a cross-sectional view taken on line 7—7 of FIGURE 3;

FIGURE 8 is a cross-sectional view taken on line 8—8 of FIGURE 3;

FIGURE 9 is a cross-sectional view taken on line 9—9 of FIGURE 3;

FIGURE 10 is a front elevation view of the link member;

FIGURE 11 is an edge elevation view thereof; and

FIGURE 12 is a cross-sectional view shown enlarged and taken on line 12—12 of FIGURE 10.

Referring now to the drawing in detail, the numeral 20 represents a box-clamp according to the present invention for holding or supporting an electric outlet box 21 from a metal stud 22 located within a wall or partition of a house.

The box-clamp 20 includes a chassis 23 and a link 24 adjustably secured to the chassis 23.

The chassis 23 comprises a generally rectangular member made from sheet steel stock of relatively thin stiff material and which is die-cut and formed, as shown in the drawings. The chassis includes a flat main panel 25 having a plurality of parallel, spaced apart slots 26 therethrough for selectively receiving the link 24. Adjacent each longitudinal edge 27 and 28 there is a relatively narrow side panel 29 and 30 respectively, which is perpendicular to the plane of the main panel. A hook 31 is struck out from the main panel 25 adjacent the edge 27.

One of the end edges defined with the reference numeral 32 has a notch 33 struck therein to form a stiffening break 34 and clamp tabs 35. The opposite end edge 36 is bent over to form a head bar 37.

Screw holes 38 are provided through the main panel 25, and nail holes 39 are provided on each side panel 29 and 30.

The link 24 comprises a generally rectangular member made from sheet steel stock of relatively thin stiff material, and which is die-cut and formed as shown in the drawings. The link includes a flat main panel 40 and a base panel 41 at right angles to each other. On the edge 42 of the main panel, there are a pair of projecting ears 43, each of which is triangularly indented, as shown at 44. A screw opening 45 is centrally located through the main panel 40 of the link. In operative use, the link is inserted in one of the slots 26 (for proper box depth) in the chassis 23. The box-clamp is placed with side panels 29 and 30 down, in a horizontal position in front of channel of the vertical stud 22, with the head bar 37 toward the channel at an angle to the channel webs. The box-clamp is moved horizontally into the channel just enough to place the head bar 37 behind the channel webs and the slots 46 in line with and the portion of the chassis between said slots projecting between the channel webs. The box-clamp is then turned on its longitudinal axis placing the head bar at right angles to the channel and behind the channel webs and the channel webs in the slots 46. The head of the box-clamp is now locked in the channel of the stud. The other end of the box-clamp is swung downward and toward the stud placing panels 29 and 30 of the chassis over the outside of the channel stud. The box-clamp is now in a vertical position having opposite lateral portions bearing against the stud webs. At this point the tabs 35 also project between the channel webs. With a pair of pliers the tabs 35 are bent behind the channel webs and crimped tightly so that the opposite ends of the head bar 37 and the tabs 35 form upper and lower pairs of holding ears engaging the faces of the webs opposite the faces engaged by the bearing portions of the chassis to clamp the box-clamp securely in place. When the box-clamp is swung down against the stud, the sheet metal between slots 46 is forced to bend slightly, producing a spring action force on the head bar 37 against the channel webs to prevent slippage, thus securely locking the box-clamp in position.

To mount the electric outlet box 21, hook the side of the box in hook 31, inserting ears 43 of link 24 through the holes in back of the box and then bend the ears tightly toward the base 41 direction of the link. The indentations on the ears are for stiffening purpose to allow bending to take place only at the base of the ear, thus bending tightly in the box holes against the direction of the base 41.

The box-clamp may be also used on wood studs by nailing through the nail openings 39.

The novel features and the operation of this device will be apparent from the foregoing description. While the device has been shown and the structure described in detail, it is obvious that this is not to be considered limited to the exact form disclosed, and that changes may be made therein within the scope and the spirit of the invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. In a box-clamp, the combination of a chassis comprising a flat rectangular main panel, a perpendicular narrow side panel adjacent each longitudinal edge of said main panel, and means for securing said chassis to a wall stud including a head bar along one transverse edge of said main panel, an open slot on each side of the main panel adjacent said head bar and a notch in the opposite end edge of said main panel to form both a stiffening break and clamp tabs, a link adjustably secured to said chassis, and means for securing an electric outlet box to said link, said main panel also having a plurality of parallel spaced apart slots therein, said link comprising a link main panel and a link base panel perpendicular to said link panel, said link main panel having a pair of extending ears formed on one edge, said extending ears each having a stiffening depression therein, said link base panel lying against one face of said chassis and said link main panel projecting through one of said spaced apart slots in the chassis for securing said chassis and link together.

2. The combination as set forth in claim 1, wherein said chassis has a formed hook along one longitudinal edge for hooking the side of said electric outlet box thereto, and said link ears providing a means for insertion through the openings in back of said outlet box, said ears and said hook providing a means for securing said electric outlet box to said box-clamp.

3. A box-clamp for supporting an electric box on the side of a metal stud which stud has opposed webs directed toward each other from the front and rear of the stud respectively, said clamp comprising a chassis having intermediate its ends lateral edge bearing portions adapted to bear against the faces of said webs to be positioned thereby, portions spaced from each other lengthwise of the chassis which portions are of a width to project between the webs of the stud, and upper and lower pairs of holding ears extending laterally from opposite sides from each of said last-mentioned portions adapted to engage the faces of said webs opposed to the faces engaged by said bearing portions, and means carried by said chassis for engaging and holding an electric box.

4. A box-clamp as set forth in claim 3 in which said chassis also has side panels extending from its side edges to lie along opposite edge faces of a stud and position the chassis relative thereto.

5. A box-clamp as set forth in claim 3 in which the ears of at least one of said pairs are bendable clamp tabs adapted to bend into holding engagement with said opposed web faces after being inserted therebetw.en.

6. A box-clamp as set forth in claim 3 in which said means for holding an electric box includes a hook adapted to receive one part of an electric box and engage the interior thereof and a bendable clamp tab adapted to be inserted into and be bent into engagement with the interior of another part of such box to mount such box rigidily on the chassis.

7. A box-clamp as set forth in claim 6 in which one of said hook and clamp tab means is an integral part of said chassis, positioned to fixedly locate a box thereon in a desired position.

8. A box-clamp as set forth in claim 3 in which there is a link detachably mounted on said chassis and extending therefrom in a direction opposite from said lateral edge bearing portions, and part of said means for holding an electric box is on said link.

9. A box-clamp as set forth in claim 8 in which said chassis has a slot therein between said bearing portions and said link has a main panel which so extends from said chassis and a base panel disposed at substantially right angles to said main panel and projects through said slot to anchor said link to the chassis.

10. A box-clamp as set forth in claim 8 in which said means for holding an electric box comprises a hook and clamp tabs, part of which are on said chassis and part on said link.

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JAMES MARBERT, *Examiner.*