

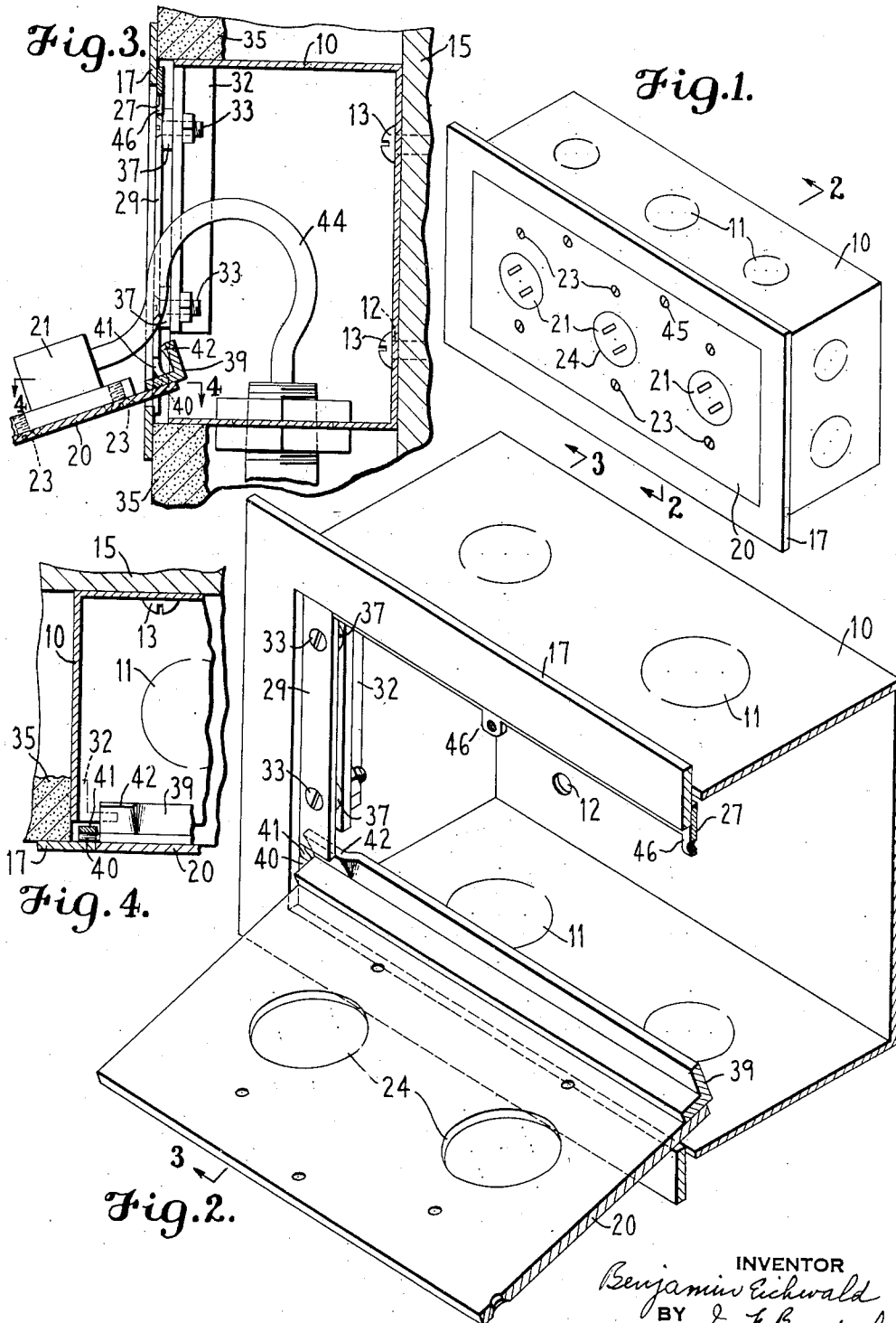
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ELECTRIC OUTLET BOX

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ELECTRIC OUTLET BOX

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1 Claim. (Cl. 247—9)

This invention relates to outlet boxes which are located in walls to house electric outlet receptacles, switches, or other units, and relates especially to such boxes for radio broadcasting circuits.

When wiring rooms with switches and outlets, boxes are permanently fixed in the wall of the room, and after the wires leading to the box have been attached to the switch or outlet unit, that unit is secured to the box and a cover plate is put over the assembly to obtain a pleasing appearance. Outlet boxes are made in large sizes for housing a plurality of switches or outlets, and provision is made for independently connecting each of the units to the box. A single cover plate, with the necessary openings for the different units, usually covers the assembly.

These outlet boxes have not been entirely satisfactory, especially for radio work. One reason is that the plaster or acoustical treatment on the wall is often damaged when the cover plate is removed to gain access to the box for repairs or changes in the wiring. Another reason is that the time required for initially installing and later for repairing or altering the circuits in such boxes makes the installation and maintenance expensive.

It is an object of this invention to provide an improved outlet box which is adapted to be permanently located in the wall of the room and to which a cover plate is permanently fastened, access to the box being had through a door in the cover plate.

Another object of the invention is to provide an improved outlet box with which the circuits can be installed, repaired or changed with a substantial saving in labor. The cost of installing and connecting the outlet box of this invention runs as much as seventy per cent. less than with boxes of the conventional type and the cost of the boxes is substantially the same.

The invention is especially intended for radio broadcasting stations. The amount of wiring in the walls of radio studios and control rooms makes installation cost an important item. The facility with which changes in the circuits can be made with this invention is also of importance because of the fact that numerous changes are made in the broadcasting circuits from time to time. An even more important advantage of the invention in radio work, however, is that quick and convenient access can be had to all units while the circuits remain intact.

In high tension work it is not safe to work on the electric circuits while they are hot, but in

radio work many of the circuits have either low voltages or are so limited in amperage that they can be worked on without danger. It is especially important to locate trouble quickly in radio broadcasting circuits, and it may be said that another object of this invention is to provide an improved outlet box which permits quick and convenient access to all units in the box without breaking any circuits.

In accordance with one feature of the invention the outlet box has a door to which all of the electric units are connected and the door opens downward into a substantially horizontal position where it is held by limit abutments and forms in effect a shelf on which all of the electric units are exposed in a convenient location to be worked on or tested. In radio work this manner of supporting the outlets or other units has special advantages because the wires of radio circuits are often small and soldered and likely to be broken loose if the units are supported by the wires as in the case of outlets removed from conventional boxes.

Other objects, features and advantages of the invention will appear or be pointed out as the specification proceeds.

In the accompanying drawing, forming a part hereof:

Fig. 1 is an isometric projection of an outlet box embodying the invention;

Fig. 2 is an enlarged, sectional, isometric projection of the box shown in Fig. 1, but with the door open and the receptacles removed in order to illustrate more clearly the construction of the box, the section being taken on the plane 2—2 of Fig. 1;

Fig. 3 is a vertical sectional view on the plane 3—3 of Fig. 2, but with one of the receptacles in place and with the box shown located in a wall; and

Fig. 4 is a horizontal sectional view taken on the plane 4—4 of Fig. 3, but with the door closed.

The outlet box 10 has conventional knock-outs 11 and openings 12 in its back wall for screws 13 (Fig. 3) which fasten the box to a stud or frame 15 within the wall. The front of the box is closed by a cover plate 17 permanently fastened to the box by screws in a manner to be described, and the cover plate is larger than the box in both height and width so that it extends well beyond all edges of the wall recess in which the box is located.

There is an opening in the cover plate 17 and a door 20 fits the opening. The door is hinged to the cover plate in such a manner that the

front surface of the door is flush with the fixed surface of the cover plate when the door is closed. Receptacles 21, or other electric units, are fastened to the back of the door 20 by screws 23 and register with holes 24 in the door. The box 5 shown in the drawing is designed for three receptacles, but some embodiments of the invention have more receptacles and some fewer.

A ledge for the door 20 to rest against when 10 closed is formed by a strip 27 welded to the back of the cover plate 17 along the top edge of the opening through the cover plate and by similar though wider strips 29 along the upright edges of the cover plate opening.

There are angles 32 welded to the box 10 15 along its upright, front edges. The cover plate 17 is fastened to the box by bolts 33 which pass through the strips 29 of the cover plate and through the angles 32 of the box. This construction is shown in the drawing at only one 20 end of the box, but the construction at the other end of the box is similar.

The front edge of the box 10 is set back from the face of the plaster 35 as shown in Fig. 3. 25 This distance is more or less, depending upon the particular installation, but the spacing of the cover plate 17 from the angles 32 of the box is accommodated to the installation by placing shims or washers 37 between the face plate and the angles 32 of the box.

An angle 39, secured to the door 20 along its 30 lower edge, extends a short distance below that edge of the door and has a pintle 40 extending from each end at a point slightly above the bottom of the door. The lower portion of the upright strip 29 is cut back even with the edge of the opening in the cover plate 17 and that portion 35 of the strip which is behind the cover plate is bent to form a bearing 41 for the pintle 40 which extends from the end of the angle 39.

In order to prevent the door 20 from opening 40 too far, the ends of the angle 39 are bent in to form an abutment portion 42 which strikes against the back of the strip 29 to limit the downward movement of the door. The abutment 42 45 stops the door before it has opened far enough for its front surface to strike the edge of the cover plate along the bottom of the opening in the cover plate. If allowed to strike that edge 50 the front of the door would eventually become marked or worn and that would be objectionable because one purpose of the cover plate is ornamental.

The door 20 preferably stops in a substantially 55 horizontal position, such as the position slightly below the horizontal shown in Figs. 2 and 3. In this position the door in effect forms a shelf on

which the receptacles 21 are supported in a very convenient position to be tested or worked on, and the front of the box is open so that an electrician can gain access to the inside for pulling 5 new wires or making other additions to or changes in the circuits. It is a feature that the abutment 42 strikes against the strip 29 on the back of the cover plate 17 instead of striking the angle 32 on the box. If the box angle served 10 as the limit stop the extent of opening of the door 20 on each installation would depend upon the thickness of the shims 37 on that particular installation.

Wires 44 which connect with the receptacles 21 15 remain connected with the receptacles when the box is open, as shown in Fig. 3. The electrician has both hands free for work when the door is open and all receptacles are out of the box. With a conventional outlet box having several receptacles or other electric units removed for inspection or repair, the electrician must hold the unit 20 that he is working on in one hand and the other units hang by their wires if still connected. In radio work the wires are small and soldered and liable to break if the receptacles are allowed to 25 hang from them.

The door 20 is held closed by screws 45 that 30 thread into lugs 46 on the strip 27. Two such screws are sufficient for even a very long box. The speed with which trouble can be located and repairs made will be evident from the fact that only two screws have to be removed in order to 35 open the door 20 and expose all receptacles and wires. Not only are these circuits made quickly accessible, but they are supported in convenient positions for testing or repairing.

The preferred embodiment of the invention has 40 been illustrated and described, but changes and modifications may be made and some features of the invention may be used without others.

I claim:

An electrical outlet box provided with a relatively large opening affording access to the interior of the box and a door for closing said opening and supported in a manner to be moved from 45 a closed position to an open substantially horizontal shelf forming position, said door being adapted to have receptacles or other electrical devices mounted thereon and to serve as a support therefor, said door being apertured to afford 50 access to said devices, and means for maintaining said door open in a position where it serves as a supporting shelf exposing and making accessible the assembly of parts including the wiring connections and without disconnecting 55 the electrical devices from their circuits.

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