

July 30, 1929.

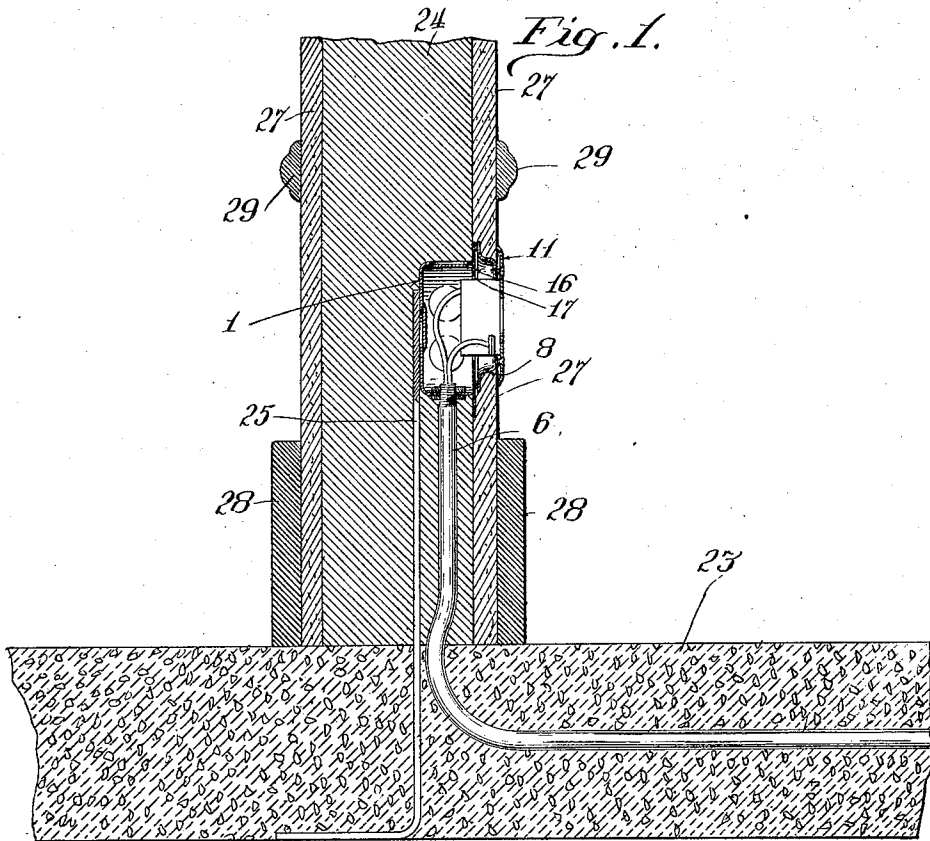
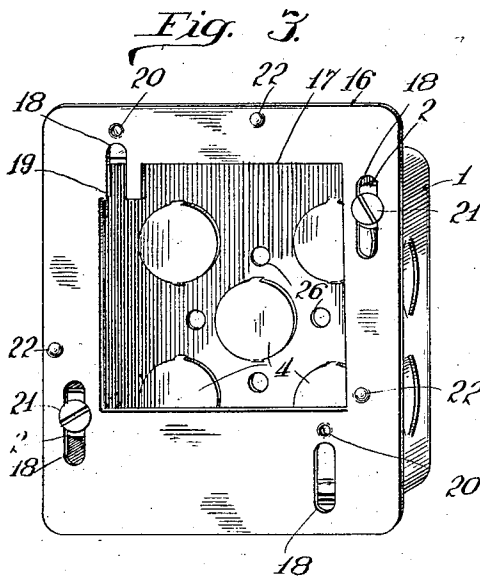
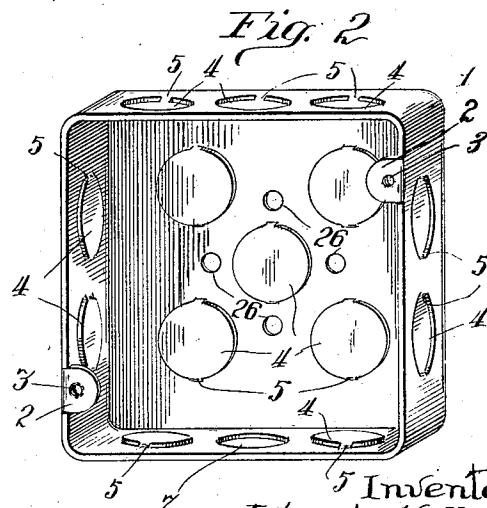
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Filed June 5, 1926

2 Sheets-Sheet 1



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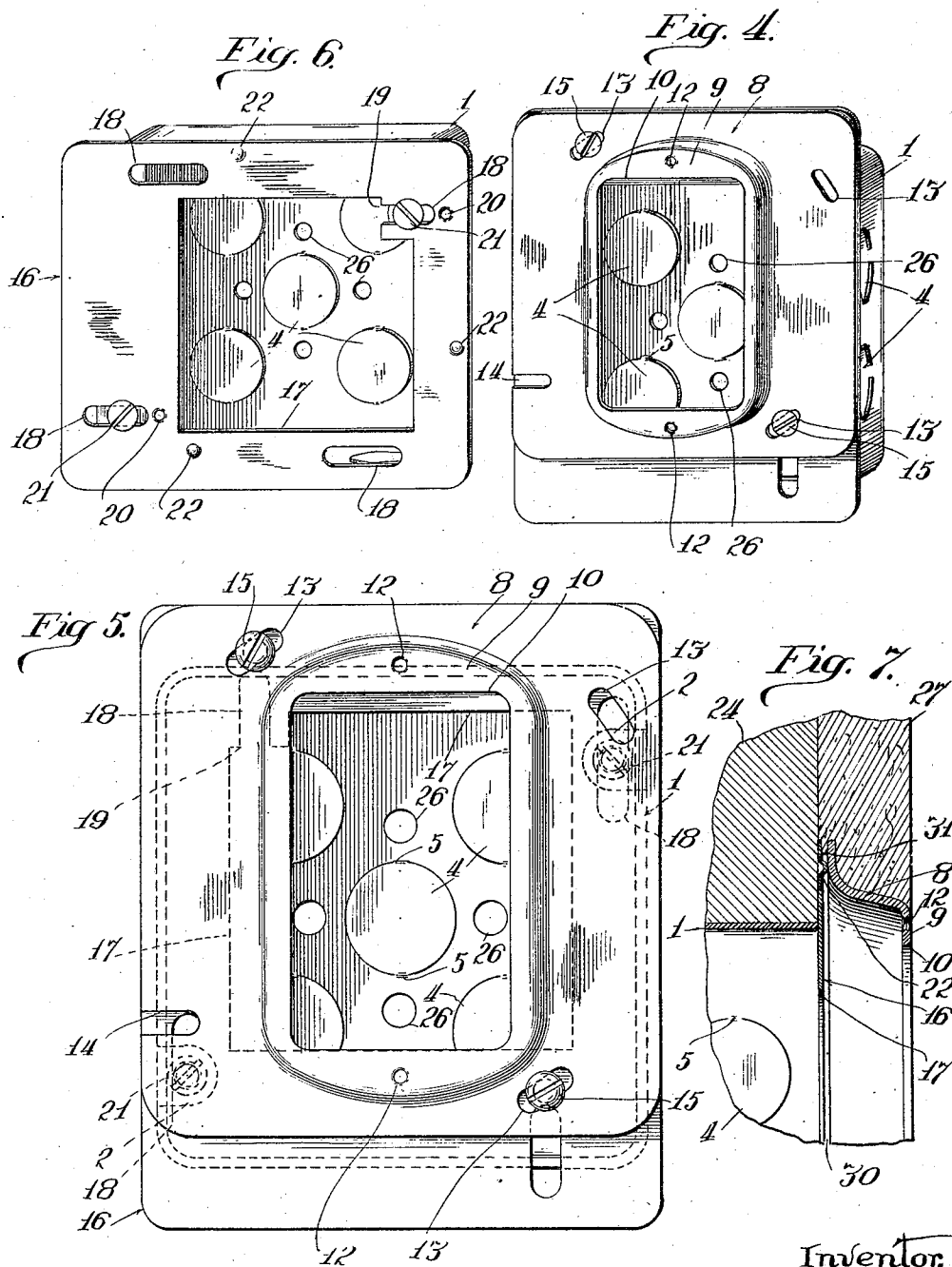
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UNITED STATES PATENT OFFICE.

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ADJUSTMENT PLATE FOR OUTLET-BOX CLOSURES.

Application filed June 5, 1926. Serial No. 113,895.

This invention relates to an adjustment plate for outlet boxes, and more particularly to a means whereby the closure for the outlet box may be permitted a certain amount of lateral adjustment in either direction when the closure is mounted upon the box.

In the process of installing the electric wiring in modern buildings, the conduits and a standard type of outlet box are mounted in the walls or partitions when the building is partially completed. At a somewhat later stage in the building construction, a closure plate, in which the switch or outlet plug is mounted, is attached to the outlet box. The outlet box and closure ordinarily used are of a standard type, and the connecting means between the box and closure are so designed that the closure can be mounted in either of two positions at right angles to one another, and also a certain amount of rotary adjustment is permitted the closure whereby it may be properly aligned with the vertical or horizontal. However, no means is ordinarily provided whereby the closure can be bodily adjusted laterally, either up or down or sideways, so that the switch or plug carried by the closure will be properly centered or aligned with relation to mouldings or other trimmings within the room.

According to this invention, a thin metallic plate is provided, which is interposed between the outlet box and the closure when lateral adjustment is required. This plate is attached to the outlet box in the same manner that the closure is ordinarily attached, and slots are provided in the plate whereby the position of the adjustment plate may be varied throughout a considerable range in either lateral direction in the plane of the plate. The closure is then mounted on the plate in much the same manner that it is ordinarily mounted on the box itself.

The principal object of this invention is to provide an improved means whereby the closure of an outlet box may be adjusted laterally in either direction.

Another object is to provide adjustment plate adapted to be interposed between the outlet box and the closure therefor.

Other objects and advantages of this invention will be apparent from the following detailed description of one approved form of

apparatus involving the principles of the invention.

In the accompanying drawings:

Fig. 1 is a vertical section through a floor and partition in a building, illustrating the use of this invention.

Fig. 2 is a perspective view of one of the outlet boxes.

Fig. 3 is a view similar to Fig. 2 showing the improved adjustment plate mounted on the box.

Fig. 4 is a view similar to Fig. 3, showing the closure mounted on the adjustment plate.

Fig. 5 is an enlarged front elevation of the assembly shown in Fig. 4.

Fig. 6 is a view similar to Fig. 3, showing the adjustment plate mounted in a different position so that the closure can be adjusted in a horizontal direction instead of vertically, as illustrated in the other figures.

Fig. 7 is an enlarged detail through the upper portion of the assembly as shown in Fig. 1.

Referring first to Fig. 2, at 1 is illustrated an outlet box of standard construction. This box is drawn or stamped from sheet material, and is closed except for one open face or side, across which project the inwardly extending lugs 2. There are usually two of these lugs, one located near each of two diagonally opposite corners of the box, as shown in Fig. 2. These lugs have tapped holes 3 for receiving the screws which secure the closure in place on the box. A plurality of discs 4 are partially stamped out of the bottom and sides of the box, small tongues 5 remaining to hold these discs in place. Any desired one or more of these discs can be easily punched out of the box to form a passage for the cable or pipe 6 (Fig. 1), one of these discs being removed to form an opening, shown at 7 in Fig. 2.

The closure, which is also of standard type, is shown in Figs. 4 and 5. The closure is formed of a stamped plate 8, having a raised central portion 9 provided with a rectangular opening 10 into which is adapted to fit the outlet plug or switch, the cover plate or closure 11 of this switch being secured to the closure 8 by screws which are engaged in the tapped holes shown at 12. In the four corners of the closure plate 8 are slots

13 and 14 for accommodating the screws, by means of which the closure is attached to the lugs 2 on the outlet box 1. Usually three of these slots, shown at 13, are positioned diagonally in the corner portions of the closure, and the fourth slot is in the form of an open notch 14 extending through the side of the closure plate. These elongated slots permit a certain limited amount of rotary adjustment of the plate, so that the rectangular opening 10 may be positioned exactly vertically or horizontally even though the outlet box 1 is slightly out of line. If this closure 8 were mounted on the box, positioned as shown in Fig. 2, the screws 15 would be inserted through the upper right hand slot 13, and the open slot 14, and engaged with the lugs 2, if the rectangular opening 10 was to be positioned vertically, as illustrated in Figs. 4 and 5. On the other hand, if it were desired to mount the closure with the rectangular opening 10 extending horizontally, the screws 15 would be inserted through the other pair of slots 13 in an obvious manner. All of the above is standard construction, now in common use, and it will be noted that although a certain amount of rotary adjustment is permitted the closure 8 upon the box 1, there are no provisions for adjusting the closure to any material extent laterally, that is up or down or sideways, with relation to the outlet box. The present invention is concerned with means for accomplishing such a lateral adjustment.

Referring now more particularly to Fig. 3, the adjustment plate 16 is formed of a thin flat sheet of metal approximately equal in width to the closure 8, but materially longer than the closure, as measured vertically in Fig. 3. The plate is formed with a large central opening 17, and in each corner portion of the plate is an elongated slot 18, the four slots being positioned as shown in Fig. 3, and all being substantially parallel with one another and extending parallel with the longer dimension of the plate 16. One of these slots 18 may extend into the central opening 17, as indicated at 19. In line with two of these slots 18 are the tapped holes 20 which are spaced from one another similarly to the holes 3 in the lugs 2, and are adapted to receive the screws 15 which hold the closure 8 in place. As shown in Fig. 3, the adjustment plate 16 is secured to the outlet box 1 by means of flat headed screws 21 which are passed through a pair of diagonally opposite slots 18 in the plate 16 and engaged in the lugs 2 of the box 1. A plurality of raised bosses 22 are formed on the plate 16 to support the closure 8 above the heads of screws 21. With the plate 16 positioned as shown in Fig. 3, it will be apparent that by loosening screws 21 the plate may be adjusted vertically through a dis-

tance equal to the length of the slots 18. In practice, this distance will be conveniently about three-quarters of an inch, although though this distance is obviously subject to variations in accordance with the proportions of the different parts. As shown in Fig. 3, the screws 21 are positioned at approximately the middle of the slots 18, and the closure 8 when mounted on the adjustment plate, as shown in Fig. 4, will be raised vertically, with relation to its normal position on the outlet box, a distance equal to approximately one-half the length of the slots 18. If greater vertical adjustment were desired, the plate 16 could be raised higher until the screws 21 reach the bottoms of the slots 18, the closure 8 then being raised above its normal position on the box a distance equal to the length of the slots 18. If it is desired to lower the closure 8 with relation to the outlet box, instead of raising it as shown, the plate 16 will be reversed end for end from its position as shown in Fig. 3, and the screws 21 inserted through the same pair of slots 18. In either of these positions of the adjustment plate 16, the closure 8 may be mounted thereon with the rectangular opening 10 extending either vertically or horizontally in exactly the same manner that it is ordinarily attached directly to the outlet box.

In case an adjustment of the closure sideways, that is toward the right or toward the left, is desired, the plate 16 is mounted on the box as shown in Fig. 6, with the slots 18 extending horizontally instead of vertically. With the plate 16 positioned, as shown in Fig. 6, an adjustment of the closure 8 toward the right is provided. If an adjustment toward the left is desired, the plate is reversed end for end from the position shown in Fig. 6. In either position of the plate 16, the closure 8 is attached to the adjustment plate in the same manner as hereinabove described.

For an example of the utility of this device, reference will now be made to Fig. 1. At 23 is indicated a floor of the building, which may be formed of reinforced concrete, and at 24 is one of the partition walls, formed of terra cotto tiles, or other suitable material. Since the cables or pipes 6 are embedded in the floors, these pipes must be laid before the floor is poured. Accordingly, the cables or pipes 6 and the outlet boxes 1 are placed in position and temporarily supported until the floors and partitions are formed therearound. For example, the box 1 may be supported on a metallic bracket 25, to which the box is secured by means of screws or similar devices passed through one or more of the openings 26 in the back of the box. The box 1 will be positioned in as nearly its proper position with respect to the finished floor line as can be estimated, but the exact position of the floor line cannot always be accurately determined in advance, and after the floor

23 is completed, and the partition 24 is in place, the position of the box 1 is fixed and immovable. Now let us assume, by way of example, that when the room is completed and the plaster 27 is applied, a base-board 28 and a strip of moulding 29 will be positioned at a fixed distance apart, as illustrated. It is naturally desirable that the switch or outlet plug carried by the closure 8 be positioned exactly midway between the base board 28 and moulding 29, but since the box 1 is already firmly anchored in place, no vertical adjustment thereof is possible. However, by means of the adjustment plate 16 hereinabove described, the closure 8 may be positioned in a raised or lowered position with relation to the outlet box 1, so that the switch or outlet plug carried by closure 8 will be properly centered between the base board and moulding. In the example here noted, the procedure will be, after the floor 23 and partition 24 are completed, but before the plaster 27 is applied, to measure the position of outlet box 1 with relation to the floor level, to ascertain if the closure 8 will be properly positioned if applied directly to the outlet box, as in the usual practice. If the outlet box 1 is in the proper position, the adjustment plate 16 need not be used at all. If the outlet box 1 is too high or too low with relation to the floor level, the adjustment plate 16 will be applied to the outlet box, as shown in Fig. 3, and properly positioned to compensate for the distance the outlet box is out of proper position. The closure 8 will then be applied to the adjustment plate 16 in the manner already described. After the parts are thus assembled, the plaster 27 is applied so as to cover everything except the raised portion of the closure 8, to which the cover plate 11 of the switch or outlet plug is attached, as shown in Fig. 1.

Referring now to the enlarged detail shown in Fig. 7, it will be noted that the bosses 22 hold the closure plate 8 away from the adjustment plate 16 so as to leave a space 30 therebetween. The primary purpose of this space is to allow clearance for the heads of the screws 21, as already described. However, the provision of this space 30 gives an added advantage when the plaster 27 is applied, since some of the plaster can enter this space 30, as indicated at 31, thus giving an additional anchoring means for the plaster and helping to overcome the difficulties involved in causing the plaster to adhere to the smooth metal surfaces of the outlet box assembly.

Although only one installation in which this adjustment plate 16 will be useful has been described in detail, numerous other situations in which these adjustment plates will be useful will readily occur to any one skilled in this art. For example, if the walls were

tilled instead of plastered, as in a bath room, it would be advantageous to be able to shift the closure 8 laterally in order to properly line it up with the tiles.

While the outlet box and closure here shown are of the standard type, and the exemplification of the adjustment plate illustrated is particularly adapted for use with this box and closure, it is apparent that the proportions of the plate and the positioning and dimensions of the several openings therein could be varied to adapt the plate for use with other forms of boxes and closures, without departing from the principles of this invention.

At times the outlet box will be placed at right-angles to the position shown in Fig. 2, that is, with the lugs 2 at the top and bottom of the box instead of at opposite sides thereof. In such case, in order to position the closure as shown in Figs. 4 and 5, the adjustment plate will be mounted in the position shown in Fig. 3, but the screws 21 will be inserted through the other pair of slots 18, that is the pair normally used for making the horizontal adjustment, as shown in Fig. 6. It will thus be noted, that with the outlet box placed in any one of the four possible positions at right-angles to one another, the closure can be mounted thereon so that the switch or outlet-plug will be positioned either vertically or horizontally, and at the same time a lateral adjustment of the closure and parts carried thereby may be obtained in any lateral direction, that is, either up or down or to the right or left.

I claim:

1. An adjustment plate for outlet box closures, consisting of a thin flat rectangular metallic plate having a central opening and provided with a pair of elongated slots extending parallel to one another but positioned in diagonally opposite corners of the plate and adapted to align with the threaded apertures of a standard outlet box, and a pair of tapped screw holes also positioned in diagonally opposite corners of the plate and spaced so as to receive the screws for securing thereto a standard outlet box closure.

2. An adjustment plate for outlet box closures, consisting of a thin flat rectangular metallic plate having a central opening and provided with a pair of elongated slots extending parallel to one another but positioned in diagonally opposite corners of the plate and adapted to align with the threaded apertures of a standard outlet box, a pair of tapped screw holes also positioned in diagonally opposite corners of the plate and spaced so as to receive the screws for securing thereto a standard outlet box closure and a plurality of raised bosses so arranged as to support the outlet box closure.

3. An adjustment plate for outlet box closures, consisting of a thin flat rectangular

metallic plate having a central opening and provided with an elongated slot in each corner portion of the plate, the slots all extending substantially parallel with one another and spaced so that diagonally opposite slots will align with the threaded apertures of a standard outlet box, and a pair of tapped screw holes positioned in diagonally opposite corner portions of the plate and spaced so as to receive the screws for securing thereto a standard outlet box closure

4. An adjustment plate for outlet box closures, consisting of a thin flat rectangular metallic plate having a central opening and provided with an elongated slot in each corner portion of the plate, the slots all extending substantially parallel with one another and spaced so that diagonally opposite slots will align with the threaded apertures of a standard outlet box, a pair of tapped screw holes positioned in diagonally opposite corner portions of the plate and spaced so as to receive the screws for securing thereto a standard outlet box closure and a plurality of raised bosses so arranged as to support the outlet box closure in spaced relation to the plate.

5. The combination with an outlet box having a rectangular open face and provided adjacent diagonally opposite corners of its open face with inturned lugs having tapped screw holes, and a rectangular closure provided with an elongated central opening to receive a switch or socket, the closure having screw-receiving openings in its four corner portions whereby the closure can normally be secured to the box lugs with the elongated opening extending in either of two directions at right angles to one another, of a flat rectangular metallic adjustment plate having a central opening and adapted to be interposed between the box and the closure, the plate being formed in two diagonally opposite corner portions with tapped holes positioned to receive screws which secure the closure thereto, and being formed in all four corner portions with elongated slots spaced to align with the screw-hole in the box lugs whereby the plate may be attached to the box lugs in either of two positions at right angles to one an-

other with capacity for lateral adjustment in the plane of the plate.

6. The combination with an outlet box having a rectangular open face and provided adjacent diagonally opposite corners of its open face with inturned lugs having tapped screw holes, and a rectangular closure provided with an elongated central opening to receive a switch or socket, the closure having screw receiving openings in its four corner portions whereby the closure can normally be secured to the box lugs with the elongated opening extending in either of two directions at right angles to one another, of a flat rectangular metallic adjustment plate having a central opening and adapted to be interposed between the box and the closure, the plate being formed in two diagonally opposite corner portions with tapped holes positioned to receive screws which secure the closure thereto, and being formed in all four corner portions with elongated slots spaced to align with the screw-holes in the box lugs whereby the plate may be attached to the box lugs in either of two positions at right angles to one another with capacity for lateral adjustment in the plane of the plate there also being a plurality of bosses on the plate for supporting the closure in spaced relation to the adjacent face of the plate.

7. In combination with an outlet box having an open side and a closure member adapted to cover the open side and having a central opening, the box and closure being each formed with a plurality of screw receiving openings adapted to register with one another whereby the closure may be normally secured directly to the box, an adjustment plate having a central opening and adapted to be interposed between the box and closure, the plate being formed with two sets of screw-receiving openings positioned to register respectively with the screw-receiving openings in the box and closure whereby the plate may be secured to the box and the closure secured to the plate, certain of the openings in the plate being elongated whereby the closure may be adjusted laterally with relation to the box.

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