Feb. 28, 1928. 1,660,548

W. B. CROWELL

ELECTRICAL FIXTURE

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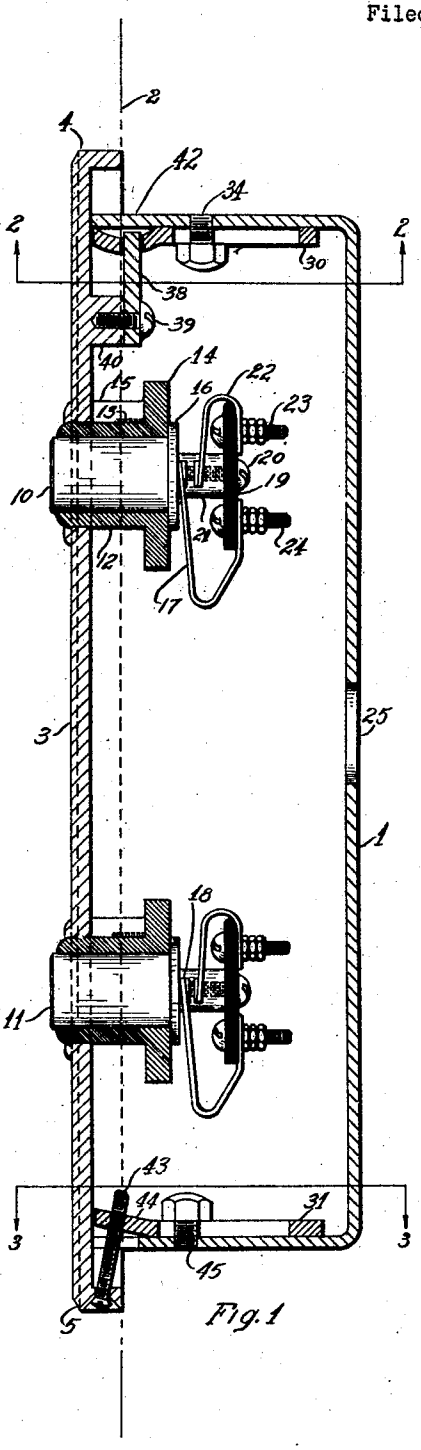


Fig. 1

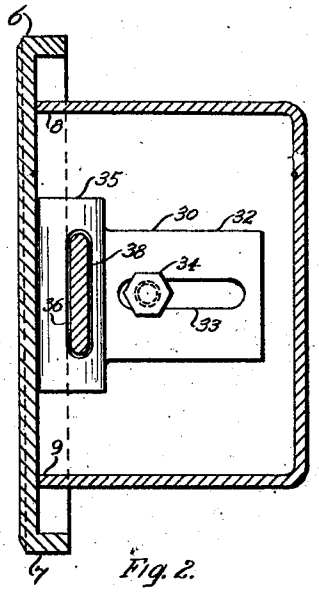


Fig. 2.

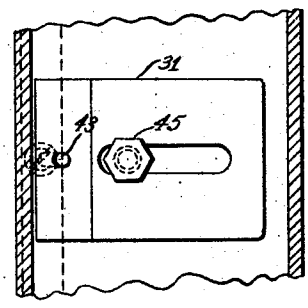


Fig. 3.

William B. Crowell

INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM B. CROWELL, OF NEW YORK, N. Y., ASSIGNOR TO ELEVATOR SUPPLIES COMPANY, INC., OF HOBOKEN, NEW JERSEY, A CORPORATION OF NEW JERSEY.

ELECTRICAL FIXTURE.

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This invention relates to electric fixtures such as push button boxes, and more particularly to means for mounting such fixtures.

The invention has special application to so-called "flush type" fixtures; that is, to fixtures of the type wherein the electrical connections and the mechanical parts to which these connections are made are mounted in a casing or receptacle which is adapted to fit in a recess in the wall of the building or vehicle on which the fixture is mounted. Other applications are possible, however, and will be suggested by the following disclosure.

It is an object of this invention to provide for a fixture of this type novel means for mounting and securing the same to the wall or support in which the fixture is placed.

It is a further object of this invention to provide fastening means which will be inconspicuous, and in fact invisible to the ordinary observer when the fixture is mounted in position. Such a method of fastening the fixture has decided advantages in that it conceals the mechanical parts, such as screws and similar fastening members, thereby rendering the fixture more pleasing in appearance, and furthermore eliminating any danger of damaging the exposed portions of the fixture by tampering with the fastening means.

A further object is to provide a construction which makes possible the permanent installation of the fixture casing even before the walls of the building are finished, with positive assurance that the outer surface of the fixture, when installed upon completion of the plastering or finishing of the walls, can be adjusted to align perfectly with the finished wall surface, whether or not the finished wall surface conforms to the specified or contemplated surface line. Heretofore it has been impractical to install the fixtures before the walls were finished, because there was no way of determining precisely where the wall finish line would come. This condition meant inconvenience and extra time for the electrical worker, who is usually a person whose services are extremely expensive.

By employing my novel mounting means, the electrician completes his work to suit his own convenience, irrespective of the condition of the walls of the building. Then, when the walls are finished, it is a simple matter for any person to insert the cover plate.

Other objects and advantage of this invention will be apparent from the following description when read in connection with the accompanying drawings, wherein:

Figure 1 is a side view in section thru a typical fixture, such as a push button box.

Figure 2 is a view thru the box looking upward along line 2—2 of Figure 1.

Figure 3 is a sectional view looking downward on line 3—3 Figure 1.

Referring to the drawings, reference character 1 designates a casing or box which is common to all fixtures of this type and which is adapted to fit in the recess provided for the same in the wall of the building or vehicle where the fixture is to be mounted; the outer surface of the wall being indicated by the phantom line 2 in Figure 1.

The cover plate for the box 1 is designated by numeral 3 in the drawing and comprises preferably a metal plate having turned edges on all four sides, the top and bottom edges being indicated respectively by numerals 4 and 5 in Figure 1 and the side edges by numerals 6 and 7 in Figure 2. These edges are constructed and finished so as to fit flush against wall 2, thus bringing the plane surface of the cover 3 flush against the outer edges of box 1, as indicated at 8 and 9 in Figure 2.

Push buttons 10 and 11, which may be of any of the well known types, or of any other desired construction or form, are inserted in the openings provided therefor in cover 3. In the form shown here (for illustrative purposes only) the buttons are adapted to slide in suitable bushings, the bushing for button 10 being shown at 12 in Figure 1. This bushing is suitably secured and supported, as for example, by one or more screws 13 adapted to secure flange 14 of bushing 12 to one or more suitable lugs 15 cast integral with cover 3.

Button 10 has at its inner end a flange 16 of insulating material for limiting the outward movement. Flange 16 has fastened thereto a conducting strip of resilient material, as indicated at 17, which strip has at one end a contact portion, as shown at 18, and at the other end is adapted to be

fastened to an insulating disc 19, which disc is held in spaced relation to bushing 12 by means of one or more screws 20, which engage the lugs provided on the flange of bushing 12, one of which lugs being shown at 21.

Disc 19 also has secured thereto another resilient conducting strip as shown at 22. The strip is provided with a contact tip adapted to be engaged by strip 17 when the button 10 is pushed, as is well known in the art. Terminal posts 23 and 24 are provided for the attachment of suitable current conducting wires for the purpose of conveying current to strips 22 and 17 respectively, these wires being brought into the fixture box 1 from the source of current supply in any suitable manner, as for example, thru the opening 25 provided in the rear wall of box 1.

The contact making means whereby an electric circuit is made whenever button 10 is pushed, which I have just described, is merely one of any number of contact making means which would be suitable for the purpose, it being understood that I do not limit my invention to this particular application.

I will next describe the novel features employed in mounting the cover 3 on the box 1 in such a manner that it will not be readily apparent to an observer just how the fixture is constructed, or what means are employed for attaching the outer cover plate to the fixture proper.

In the preferred form shown in the drawings this means comprises a pair of attaching plates, one for the top and one for the bottom, as shown at 30 and 31 respectively. The upper plate 30, as best shown in Figure 2, comprises a flat portion 32 centrally slotted as shown at 33 for the insertion of a bolt or cap screw 34, or other securing means. Plate 30 at its other end has a curved portion as shown at 35, said curved portion also being slotted as shown at 36, but at right angles to the slot shown at 33.

In this slot a means for catching and positioning the outer cover 3 with respect to the plate 30 is provided. As shown here in the preferred embodiment this means comprises a vertically disposed projection 38 adapted to fit somewhat loosely in slot 36 and to be secured at its lower end to cover 3, preferably by means of a cap screw 39 passing thru the lower end of plate 38 and into the lug 40 cast integrally with plate 3 in suitable position for the purpose.

Cap screw 34 is secured in fixed position relatively to box 1 as shown clearly in Figure 1, but can be loosened due to its threaded portion engaging therewith, so that plate 30 may be shifted laterally with respect to box 1, for the purpose of getting any desired positioning for cover plate 3 within the limits imposed by the length of slot 33; it being understood that the desired position is that which brings the outer cover plate flush with the wall surface, as illustrated.

With this construction for the upper fastening means it is apparent that the cover 3 is definitely located and positioned with respect to box 1 and in a manner which is invisible from the outer surface. While this upper means assures that the cover will remain in its proper adjusted relation to the box it does not provide a positive support for the cover and in fact would allow the cover to drop due to its own weight until the edge 4 engaged with the upper wall 42 of box 1. Consequently it is necessary to provide means for preventing any downward movement of the outer cover 3.

In the preferred embodiment this is accomplished by providing in the lower edge 5 of cover 3 an orifice for the insertion of a screw or other fastening means, which preferably passes upward at an angle, as shown in Figure 1, so as to make assembly and removal easier for the person installing the fixture. This screw 43 passes thru the left-hand portion 44 of plate 31, thereby securing plate 31 and cover 3 in fixed relation to each other. Plate 31 is further secured to box 1 in a manner similar to that employed for securing plate 32 to the upper portion of the box, it being understood that the two screws 34 and 45 will be manipulated in unison when adjustment of cover 3 for flush position is being made.

With the foregoing description read in conjunction with the attached drawings, it is obvious that the signal fixture is installed in the recess in wall 2 by first placing the box 1 in the recess and then inserting plates 30 and 31, plate 30 being positioned so that the outer edge of slot 36 will be on line with what is expected to be the outer surface of wall 2, as shown in Figure 1. With plate 30 in this position, cap screw 34 will be inserted in the hole provided therefor in box 1 and screwed up tightly so as to retain plate 30 in its proper position. Plate 31 will now be attached and secured by means of cap screw 45 in the position determined by the position of plate 30. Cover 3 with lug 38 already secured thereto, can now or at whatever time the wall is finally finished be pushed up in position as determined by the engagement of lug 38 with slot 36. When thus positioned the entire unit may be made secure by inserting screw 43 and fixedly securing the same in the manner clearly shown in Figure 1.

I have in this manner provided a signal box which can be mounted before completion of the wall surface with its outer cover adjustable so as to rest flush against the supporting wall when completed. Furthermore I have done this without the use of any of the conspicuous mechanical fastening means

which have been necessary heretofore and which cause an unsightly appearance, besides subjecting the outer surface of the fixture to the possibility of defacement when the cover is being removed or placed in position.

While I have shown and described in detail a specific embodiment of my invention and a particular application thereof, it is to be understood that I do not wish to be limited thereby, but only by the scope of my invention as determined by my novel contribution to the art and as defined in the appended claims.

I claim:

1. In a switch box cover plate, a casing, a plate mounted on the inner surface of said casing and provided with a slot allowing relative movement of said plate and casing, a flanged cover for said casing, and means for attaching said cover to said plate, said means comprising a fastening member passing from the flange on said cover thru said plate.

2. In a switch box cover plate, a casing, a plate mounted on the inner surface of said casing, and provided with a slot allowing relative movement of said plate and casing, a cover for said casing having turned edges, and means for passing a screw through one of said turned edges and said plate.

3. In a switch box cover plate, a rectangular casing, a pair of slotted plates associated with the upper and lower inner surfaces of said casing respectively, fastening means passing through the slot in the upper plate and engaging the upper wall of said casing, similar fastening means engaging the lower wall of said casing, a cover for said casing, and means for securing said cover to said lower plate, comprising a single screw passing through said cover and said lower plate.

4. In a switch box cover plate, a rectangular casing, a pair of slotted plates associated with the upper and lower inner surfaces of said casing respectively, fastening means passing through the slot in the upper plate and engaging the upper wall of said casing, similar fastening means engaging the lower wall of said casing, a cover for said casing, means on the upper portion of said cover for engaging said upper plate to position said cover with respect to said upper plate, and means on the lower portion of said cover for securing the same to said lower plate, comprising a single screw passing through the lower portion of said cover and said lower plate.

Signed at Hoboken, New Jersey, this 1st day of May.

WILLIAM B. CROWELL.