W. J. NEWTON.

SUPPORTING MEANS FOR ELECTRIC SWITCHES.

APPLICATION FILED MAY 25, 1915.

1,264,546. Patented Apr. 30, 1918.

Fig. 1.

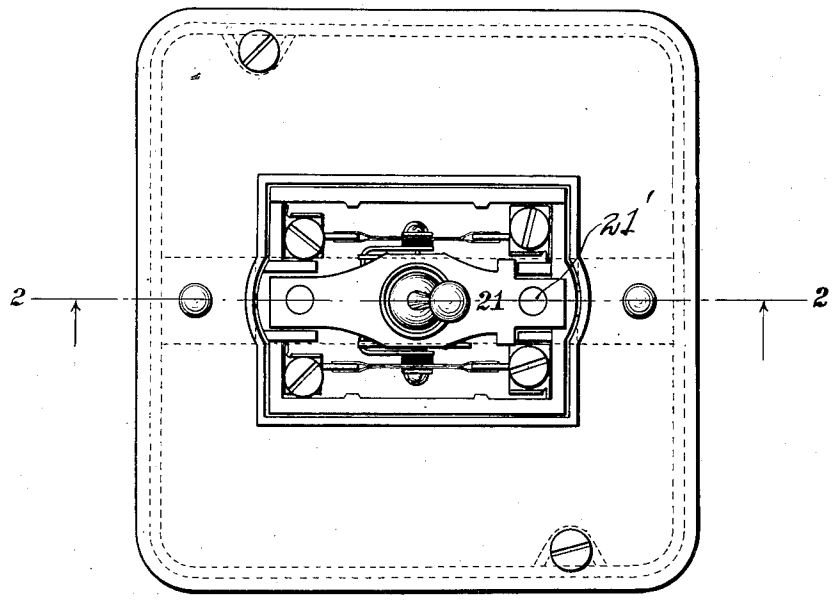
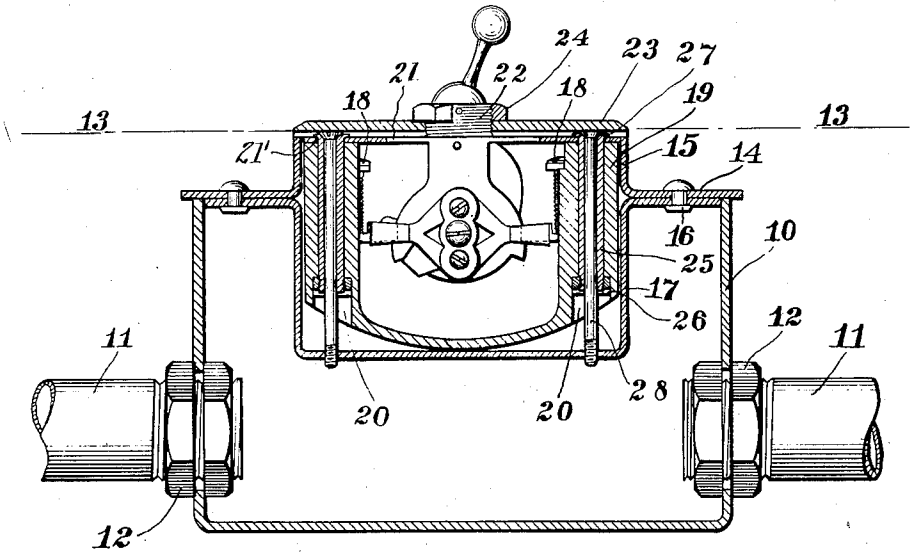


Fig. 2.



Witnesses:
Marion A. Tobey
Wm. D. Fowler

William J. Newton Inventor
By his Attorneys
Sheffield & Betts.

UNITED STATES PATENT OFFICE.

WILLIAM J. NEWTON, OF LYNBROOK, NEW YORK, ASSIGNOR TO NEWTON MANUFACTURING COMPANY, OF LYNBROOK, NEW YORK, A CORPORATION OF NEW YORK.

SUPPORTING MEANS FOR ELECTRIC SWITCHES.

1,264,546. Specification of Letters Patent. Patented Apr. 30, 1918.

Application filed May 25, 1915. Serial No. 30,347.

To all whom it may concern:

Be it known that I, WILLIAM J. NEWTON, a citizen of the United States, and a resident of Lynbrook, county of Nassau, State of New York, have invented certain new and useful Improvements in Supporting Means for Electric Switches, of which the following is a description.

In my application Ser. No. 26277, filed May 6, 1915, I have shown a type of switch mechanism and an insulating switch box therefor adapted for the control of the ordinary lighting circuits of buildings. I have also shown in my said application means for attaching the face plate of the switch to the switch mechanism in such manner that the usual screws used for this purpose are dispensed with. My said application also shows a supporting bridge upon which the operating parts of the switch are carried, which bridge is carried by the switch box. I have not, however, in my said application, shown the specific means of attaching the bridge.

In my present application I shall describe a form of attaching means for attaching a bridge of the type shown in my said application Ser. No. 26277 to the switch box and of attaching the switch box to the outlet box of the system. It should, however, be understood that my invention is not limited to the specific type of switch mechanism and switch box shown in my said application Ser. No. 26277, but that this mechanism is shown in this application merely by way of example of an operative form of switch to which my invention may be applied and that my present invention may be applied to a large number of various types of switches and switch boxes.

One of the principal objects of my invention is to reduce the size of the face plate necessary to cover the switch mechanism. Heretofore it has been impossible to substantially reduce the size of the face plate, by reason of the fact that the bridge or upper member of the switch mechanism extended an appreciable distance beyond the switch box at each end and that the face plate was attached to the bridge by means of screws. As shown in my prior application referred to above, Ser. No. 26277, I have dispensed entirely with the screws attaching the face plate to the switch mechanism. In the device shown in my present application I make use of the type of supporting bridge shown in my said prior application, which, as shown therein, need not extend beyond the edges of the switch box, and by using the improved means of attaching the supporting bridge to the switch box and the switch box to the outlet box shown herein, I am enabled to reduce the size of the face plate so that it need be only a trifle larger than the top of the switch box.

A further object of my invention is to assemble the switch mechanism and switch box into one unit, which may be easily removed from the outlet box after removing the face plate, the switch attaching means being such that they are readily detachable, but when in place hold the switch securely. The switch attaching means are further so arranged that they are entirely concealed by the face plate, but are readily accessible.

In the drawings accompanying this specification I have shown a switch mechanism and a switch box of the general type shown in my prior application Ser. No. 26277.

Figure 1 shows a front view of such a switch mechanism mounted in an outlet box, the face plate being removed;

Fig. 2 is a vertical section through the outlet and switch boxes along the line 2—2 of Fig. 1, the face plate and conduits being in position in Fig. 2.

Referring to the drawings, at 10 I have shown an outlet box into which are brought conduits 11 carrying the electrical conductors. These conduits are secured by means of the nuts 12 to the outlet box in the usual manner. The outlet box is set into the wall in such a position, that the top edge of an upstanding flange 15, upon the cover 14 of the box will closely conform to the finished plaster line 13—13. Secured to the under side of the cover 14 by means of rivets 16 or in any other suitable manner, are switch supporting means 17, in this case shown as a relatively narrow band of metal of a generally U-shape, so as to conform to the dimensions of the switch box. By using a relatively narrow band, as illustrated, I am enabled to easily make the connections from the wires contained in conduits 11 to the binding posts 18. Contained in the bend of the band 17 is the switch box 19 which may be made of porcelain or any other suitable material. Switch box 19 is provided with holes 20. Extending across the top of

the switch box is the supporting bridge 21 which may be of the type referred to in my said prior application Serial No. 26277, which supporting bridge supports the switch mechanism and is provided with an upstanding collar 22, which is adapted to pass through the face plate 23 and which is threaded to permit the collar 24 to be screwed down over the face plate, thus fastening the face plate in place.

Bridge 21 is provided with two holes 21' which are adapted to register with holes 20 of the switch box.

In assembling the switch mechanism and switch box, I pass two tubular attaching members 25 through the holes 20 of the switch box and through the corresponding holes of the supporting bridge. Tubular attaching members 25 are provided at one end with an enlarged head 26 which engages a corresponding shoulder in the switch box. The other end of the attaching member is then expanded or swaged over the supporting bridge, as shown at 27. The switch and switch box are thus assembled into a unit which may be readily inserted or removed in the outlet box.

When the switch and switch box are inserted in the outlet box, I pass through the tubular attaching members 25 switch attaching means 28 of a suitable form, in this case shown as long screws or bolts which enter holes in the band 17 and thus hold the switch mechanism and switch box in place. By then passing the face plate over the collar 22 and screwing down the collar 24, the entire mechanism is completely hidden.

While I have only shown one form of my invention, I do not wish to be limited thereto, since it is obvious that many modifications may be made, without departing from its spirit.

What I claim is:

1. In a device of the kind described, a supporting bridge having a perforation, a switch-box open at one end and including a side wall provided with a perforation passing longitudinally therethrough and registering with the perforation of the bridge and fastening means passing through the perforations in the switch-box and the bridge, whereby the switch-box is supported from said bridge with its open end adjacent thereto.

2. In a device of the kind described, a supporting bridge having a plurality of perforations, a switch-box open at one end and including side walls provided with perforations passing longitudinally therethrough, each of said last-mentioned perforations registering with one of the perforations of the bridge and attaching means passing through the perforations of both the switch-box and the bridge, whereby the switch-box is supported from said bridge with its open end adjacent thereto.

3. In a device of the kind described, a supporting bridge having a plurality of perforations, a switch-box open at one end and including side walls provided with perforations passing longitudinally therethrough, each of said last-mentioned perforations registering with one of the perforations of the bridge and attaching means passing through the perforations of both the bridge and switch-box, and having enlarged ends for engaging the bridge and switch-box, whereby the switch-box is supported from said bridge with its open end adjacent thereto.

4. In a device of the kind described, a supporting bridge having a perforation, a switch-box having a perforation, switch supporting means, means passing through the perforations in the bridge and switch-box for attaching together the bridge and switch-box, and for detachably securing the bridge and switch-box to the supporting means.

5. In a device of the kind described, a perforated bridge, a perforated switch-box, switch supporting means, means passing through the perforations in the bridge and switch-box for attaching together the bridge and switch-box, and means also passing through said perforations for detachably securing the bridge and switch-box to the supporting means.

6. In a device of the kind described, a supporting bridge having a perforation, a switch-box having a perforation, switch-supporting means, a tubular member passing through the perforations of the switch-box and bridge for attaching together the switch-box and bridge, and means passing through the tubular member for detachably securing the switch-box and bridge to the supporting means.

7. In a device of the kind described, a supporting bridge having a plurality of perforations, a switch-box having a plurality of perforations, each of which registers with a perforation of the bridge, a plurality of tubular members, each of which passes through a perforation of the bridge, and a perforation of the switch-box, for attaching together the bridge and switch-box, and a plurality of members passing through the tubular members for detachably securing the bridge and switch-box to the supporting means.

8. In a device of the kind described, a perforated supporting bridge, a perforated switch-box, an outlet box, a cover therefor, switch-supporting means attached to the cover, and switch attaching means passing through the perforations in the bridge and the switch-box, for detachably securing the

bridge and switch-box to the switch supporting means.

9. In a device of the kind described, a supporting bridge having a perforation, a switch-box having a perforation, a tubular attaching member passing through said perforations, and engaging the switch-box and the bridge, an outlet box, a cover therefor, a supporting strap attached to the cover, and means passing through the tubular member, for securing the bridge and switch-box to the strap.

10. In a device of the kind described, a supporting bridge having a plurality of perforations, a switch-box having a plurality of perforations, each of which is adapted to register with a perforation of the bridge, a plurality of tubular attaching members, each of which passes through a perforation of the switch-box, and a perforation of the bridge, and is provided with enlarged ends engaging the switch-box and bridge, an outlet box, a cover therefor having an upstanding flange, a supporting strap attached to the cover on the opposite side from the flange, and a plurality of screws passing through the tubular members, for engaging the strap.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM J. NEWTON.

Witnesses:
MARION A. TOBEY,
WM. F. FOWLER.