

E. R. STORM.
ELECTRIC SWITCH.

(Application filed Oct. 16, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

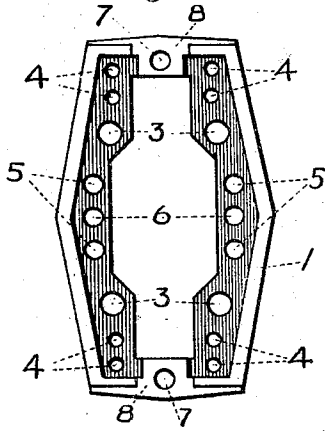


Fig. 2.

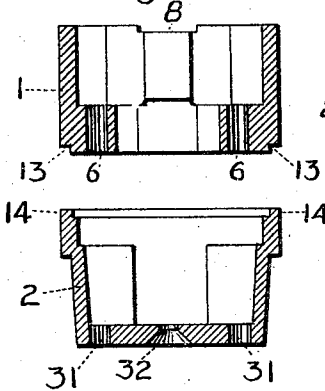


Fig. 6.

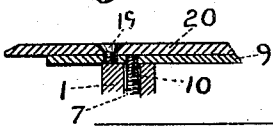


Fig. 3.

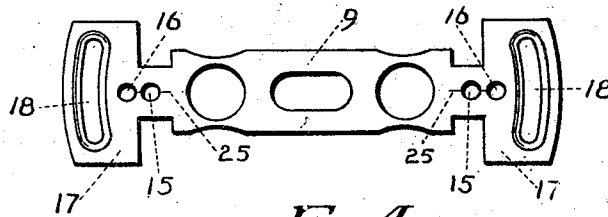


Fig. 4.

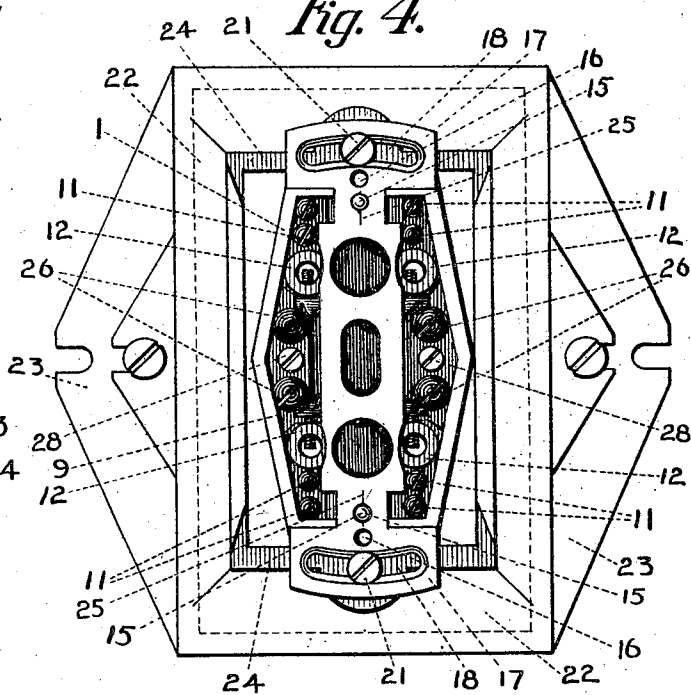
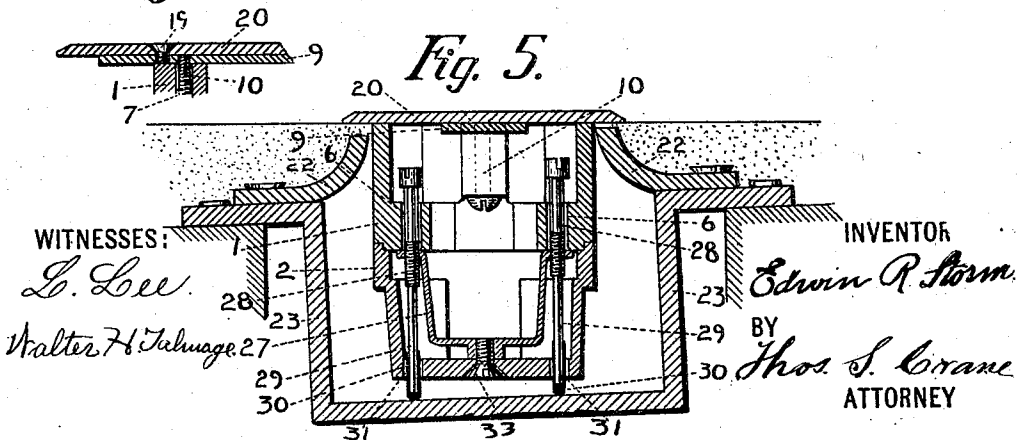


Fig. 5.



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3 Sheets—Sheet 2.

Fig. 7.

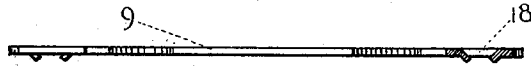


Fig. 8.

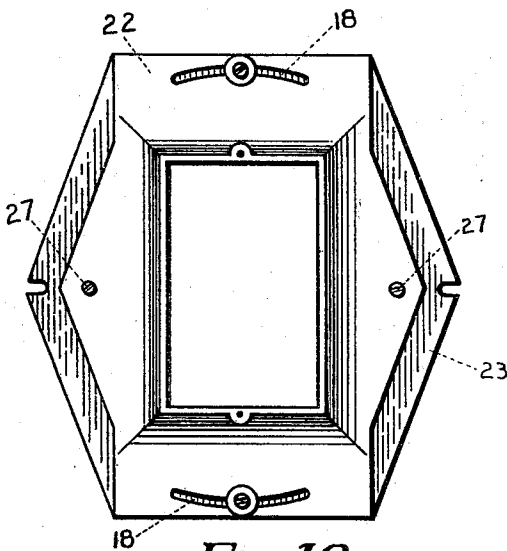


Fig. 9.

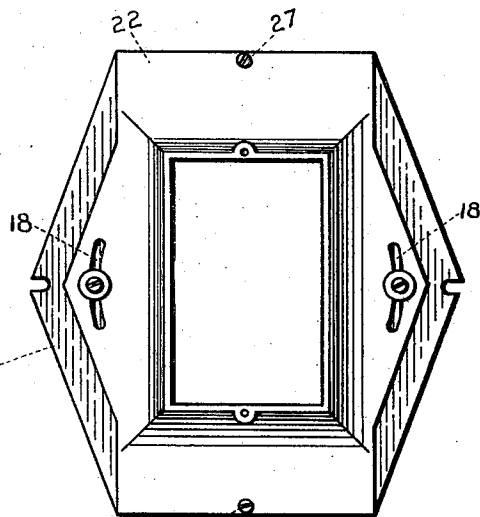


Fig. 10.

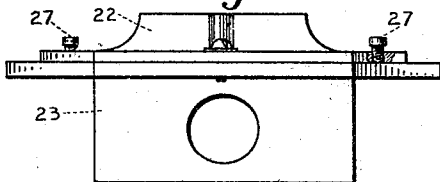
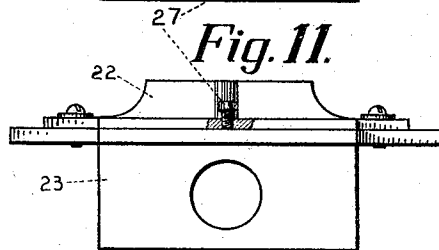


Fig. 11.



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No. 690,479.

Patented Jan. 7, 1902.

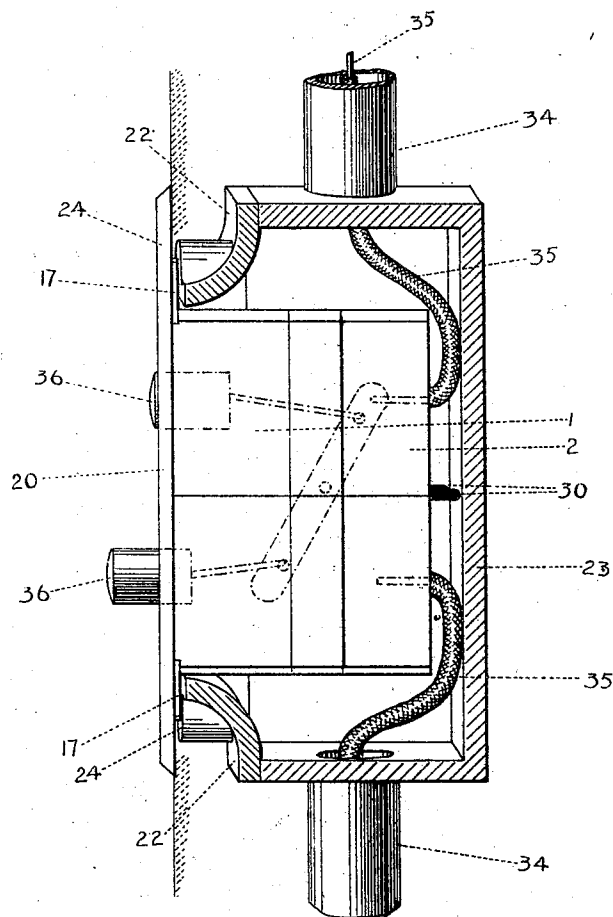
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(No Model.)

3 Sheets—Sheet 3.

Fig. 12.



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UNITED STATES PATENT OFFICE.

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ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 690,479, dated January 7, 1902.

Application filed October 16, 1899. Serial No. 733,722. (No model.)

To all whom it may concern:

Be it known that I, EDWIN R. STORM, a citizen of the United States, residing at No. 3 Union Square, W., in the city of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Wall-Boxes for Electric Switches, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to a particular construction for a wall-box to retain an electric switch within a wall, and which being commonly placed in position during the earlier stages of the construction of a building is rarely set plumb and parallel with the walls. After the insertion of the switch the face-plate is often found to be out of plumb and not fitting against the plaster.

The objects of this invention are, first, to provide means for correcting the position of the axis of the face-plate, and, second, to provide means for adjusting the plane of the face-plate to the plane of the wall. I attain these objects by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the switch-case with the switch mechanism removed. Fig. 2 is a sectional view of the switch-case, in which 1 is the body of the case, and 2 is the back cover of the case. Fig. 3 is a top view of the lug-piece. Fig. 4 is a front view of a wall-box with the face-plate and switch mechanism removed. Fig. 5 is a sectional view of a wall-box with the switch mechanism removed. Fig. 6 is a detail showing the attachment of the lug-piece to the switch-case and the face-plate to the lug-piece. Fig. 7 is a view of the lug-piece 9 struck from sheet metal, one end being indicated in section to show the method of forming the bevel in the slot to receive the head of the clamping-screw 21. Figs. 8 and 9 are front views of wall-boxes with the switches and switch-cases removed, showing the adjusting-slots formed in the covers and leveling-screws fitted to threaded holes in said covers and bearing against the surface of the wall-box. Figs. 10 and 11 are end views of the wall-boxes shown in Figs. 8 and 9, respectively, and have portions of the covers broken away to show the slot and screw in section

bearing against the surface of the wall-box. Fig. 12 is a sectional view of a wall-box, showing a switch-case in position with a circuit-controlling device in the switch-case.

The switch-case (shown in plan or top view in Fig. 1 and in section in Fig. 2) is formed of insulating material, and consists of a body 1 with a back cover 2 and is formed to receive the switch mechanism, which has been omitted in the drawings for the sake of clearness. The body 1 is perforated by the holes 3, 4, 5, 6, and 7, for purposes to be described and recessed at 8 to receive the lug-piece 9, (see Fig. 3,) while the sides and ends are tapered to permit of a partial rotation of said body 1 when placed in a wall-box, as shown in Fig. 4. The lug-piece 9 is secured to the body 1 by the screws 10, passing from the rear side through the holes 7 in the body 1. (See Figs. 5 and 6.) The holes 3 are formed to allow the conducting-wires to enter the switch-case. Holes 4 are shown in the case in Fig. 1 and are employed to permit the passage of screws 11, which are shown in Fig. 4, to hold the foot of a binding-post upon the body 1. The binding-post may be of any ordinary construction and is merely indicated by the circle 12 in Fig. 4 to show its location. Around the rear of the body 1 is formed the rabbet 13 to receive the lip 14 of the back cover 2, as shown in Fig. 2. The lug-piece 9, pierced by the holes 15 and 16, as will be seen in Fig. 3, is formed with the slotted ends 17, containing the slots 18. The holes 15 are threaded to receive the screws 10, while the holes 16 are threaded to receive the screws 19, which secure the face-plate 20 to the lug-piece 9. (See Fig. 6.) The slots 18, which are formed on the arc of a circle whose diameter is the distance from slot to slot have their edges beveled to receive the heads of the screws 21, which fit into threaded holes in the cover 22 of the wall-box 23, to which the cover is secured. The outer edges of the cover are recessed at the ends for a space 24 wider than the slotted ends of the lug-piece to permit the partial rotation of the lug-piece 9 within the opening of the wall-box cover, as in Fig. 4. The attachment of the face-plate 20 to the lug-piece carries the plate into any position in which the lug-piece is adjusted, and the lug-piece

and face-plate may thus be set truly vertical or horizontal, as may be required, when the wall-box is not set in the desired position. On the lug-piece 9 are placed guide-lines 25, passing through the center of the holes 16 and serving as a guide in adjusting the said lug with regard to its axes.

Through the holes 5 in the body 1 are passed the screws 26, (see Figs. 1 and 4,) which fit in threaded holes in the yoke-piece 27 (shown in Fig. 5) and secure the yoke-piece 27 to the body 1. Through the holes 6 in the body 1 are passed the leveling-screws 28, (shown in Figs. 4 and 5,) which fit in threaded holes in the yoke-piece 27. The ends 29 of the leveling-screws 28 are furnished with insulating-caps 30. (See Figs. 5 and 12.) The back cover 2 is perforated with holes 31 to permit the passage of leveling-screws 28 and the hole 32, through which is passed the screw 33, fitted to a threaded hole in the yoke-piece 27. The screw 33 thus holds the back cover 2 to the body 1.

In Fig. 12 is shown a wall-box in position in the wall, with the protective tubes 34 entering each end and the insulated conducting-wire 35 leading from the protective tubes through the back cover 2 to the circuit-controlling devices placed within the switch-case 1, the circuit-controlling devices (indicated by the broken and dotted lines) being controlled by the push-buttons 36.

Having described the several parts of my invention, it will be seen that where a wall-box has been placed with its axis at variance with their proper position, causing the sides of the face-plate to stand out of plumb, such displacement may be corrected by loosening the screws 21 and turning the lug-piece 9 and switch-case 1 and 2 to the desired position or until the guide-lines 25 are plumb, when the lug-piece is clamped by tightening the screws 21. Should the wall-box have been placed so as to cause the plane of the face-plate to incline to the plane of the plaster, as shown by the position of the wall-box 23 in Fig. 5, the face-plate may be brought parallel to the plane of the plaster by removing the face-plate, loosening the screws 21, and turning the leveling-screws 28 until the insulating-caps 30 press on the back of the wall-box 23 and bring the top of the lug-piece 9 flush with the plane of the plaster. The lug-piece may then be secured by tightening the screws 21. The face-plate when replaced will be parallel with the plane of the plaster.

It is manifest that the precise details of construction I have described and shown may be varied without departing from the spirit of my invention, and I do not wish the invention therefore to be understood as restricted to such details. I have therefore illustrated modifications, showing in Fig. 7 the lug-piece 9 struck from sheet metal and the bevel of the slot 18 formed by depressing its edges to receive the countersunk head of the screw 21, which forms a ridge upon the back of the lug-

piece. The cover itself may, as shown in Figs. 8 to 11, inclusive, be formed with the slots and screws to permit the same adjustments which are provided with the prior constructions. In Figs. 8 and 10 the slots 18 are formed at the opposite ends of the cover 22 and the leveling-screws 27 are fitted through threaded holes at opposite sides of the cover and bear against the surface of the wall-box 23. In Figs. 9 and 11 the slots are made in the side portions of the cover and the leveling-screws are inserted in the ends of the same. All the constructions described perform the same functions as the lug-piece.

It is obvious that any suitable support or base adapted to be set in the wall would be an equivalent for the wall-box and any circuit-controlling devices mounted thereon would be equivalent to the switch shown herein, and I have therefore made a broad claim to a cover or cover-plate with means whereby an angular adjustment may be effected between such cover and the base which supports the circuit-controlling devices.

Having thus set forth the nature of the invention, what is claimed herein is—

1. The combination, with a suitable support or base adapted to be set in a wall or other similar structure, of circuit-controlling devices mounted thereon, a cover-plate, and means whereby an angular adjustment may be effected between the cover-plate and the base.

2. The combination, with a suitable support or base adapted to be set in the wall or other similar structure, of circuit-controlling devices mounted thereon, a cover-plate, and means whereby the cover-plate may be given an angular adjustment with respect to the base.

3. The combination, with a suitable base adapted to be set in the wall or other similar structure, of a support for circuit-controlling devices mounted thereon, a cover-plate, means for securing the plate to the support, and means whereby the support may be given an angular adjustment with respect to the base.

4. The combination, with a suitable base adapted to be set in the wall or other similar structure, of a support for circuit-controlling devices mounted thereon, said support being provided with suitable slots, screws passing through the slots into the base, whereby the support may be given angular adjustment with respect to the base, a cover-plate, and means for securing the plate to the support.

5. The combination, with a suitable base adapted to be set in the wall or other similar structure, of a support for circuit-controlling devices mounted thereon, said support including a slotted bar, means engaging the slot for securing the bar to the base, and means for securing a cover-plate to the support.

6. The combination, with a base adapted to be set in a wall or similar structure, of a

support for circuit-controlling devices mounted thereon, means whereby the support may be given an angular adjustment with respect to the base, and a perforated cover-plate secured to the support, through the perforations of which plate the circuit-controlling devices are accessible.

7. The combination, with a wall-box, of a switch-case covered by a face-plate, a member sustaining the switch-case adjustably upon the wall-box, and retaining-screws for securing the switch-case and face-plate in the desired position.

8. The combination, with a wall-box containing a switch, of a wall-box cover having its outer edges notched or recessed at the ends, an adjustable member having slotted ends fitted to the recesses in the cover, a face-plate attached to the adjustable member, and screws fitted through the slotted ends into the cover, the recesses permitting the adjustment of the slotted ends upon the wall-box to set the face-plate as desired, and for the purpose set forth.

9. The combination, with a wall-box, of a switch-case having tapered ends and covered by a face-plate, a member sustaining the switch-case adjustably upon the wall-box, and retaining and leveling screws for adjusting and securing the switch-case in the desired position.

10. The combination, with a wall-box having the recesses 24 at its ends, of a switch-case formed with tapered ends to permit its inclination within the wall-box, the lug-piece

9 attached to the switch-case and formed with slotted ends, and the screws 21 for securing the lug-piece to the wall-box when adjusted.

11. The combination, with a wall-box having the recesses 24 at its ends and containing a switch-case as set forth, of the lug-piece 9 attached to the switch-case and formed with slotted ends, the screws 21 for securing the lug-piece to the wall-box, and the leveling-screws 28 for adjusting the switch-case within the wall-box.

12. The combination, with a wall-box containing a switch-case having a face-plate, of an adjustable member sustaining the casing and face-plate upon the wall-box, means for clamping such member adjustably and such member being provided with the guide-line 25 as an index to its position.

13. The combination, with a wall-box containing a switch-case having a face-plate, of an adjustable member sustaining the switch-case and face-plate upon the wall-box, means for clamping such member adjustably upon the wall-box, and leveling-screws 28 provided with insulating-caps 30 for adjusting the face-plate upon the wall-box, substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWIN R. STORM.

Witnesses:

EDWARD W. GILBERT,
B. NAPIER ANDERSON.