Feb. 17, 1931. W. R. NEALL 1,793,187

OUTLET BOX

Filed Jan. 5, 1929

Fig. 1.

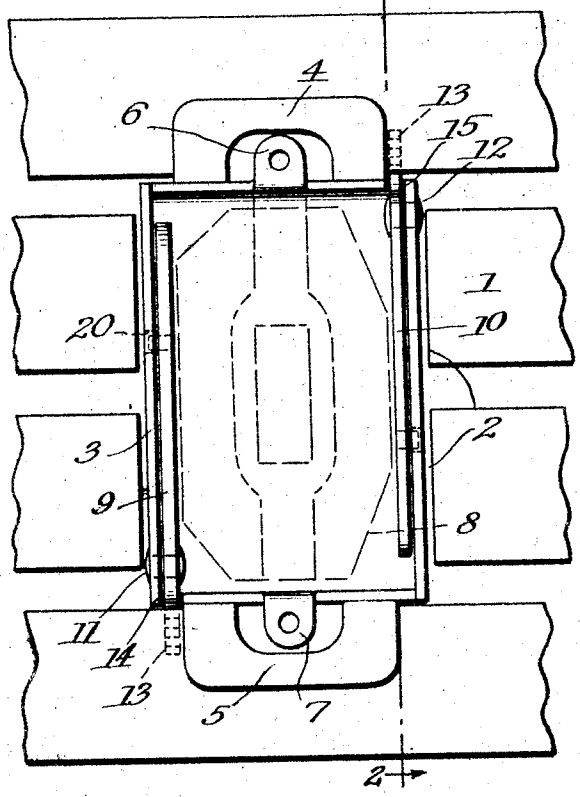


Fig. 3.

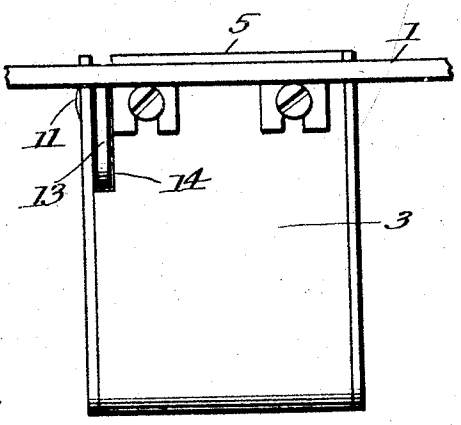
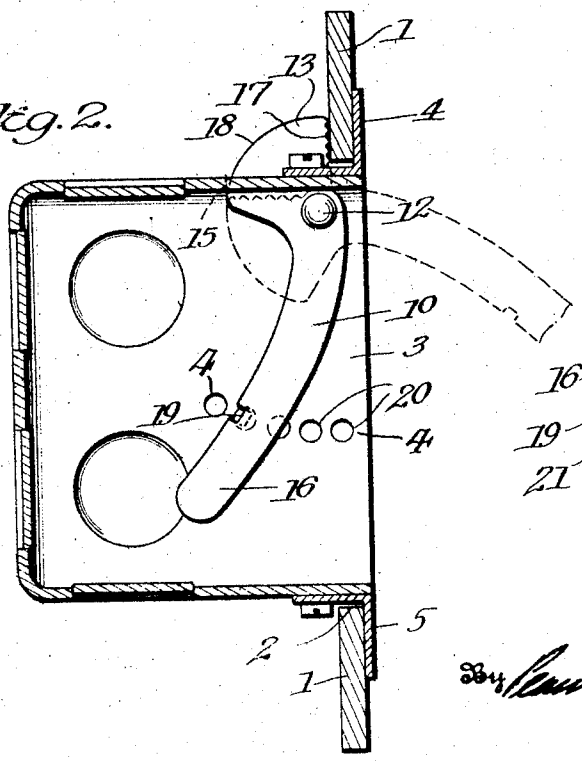


Fig. 2.



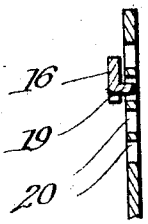


Fig. 4.

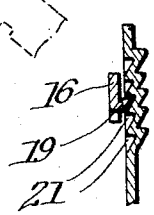


Fig. 5.

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Patented Feb. 17, 1931 1,793,187

UNITED STATES PATENT OFFICE

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OUTLET BOX

Application filed January 5, 1929. Serial No. 330,469.

The present invention relates to outlet boxes for electrical conduits having means carried thereby for securely fastening the same to the lathing or other plaster base.

The ordinary type of electrical conduit outlet box heretofore used and approved by the fire underwriters, comprises a sheet metal box having perforated flanges projecting at right angles from opposite sides of the outer or open side of the box. In securing these outlet boxes in place, an opening approximately the same size and shape as the box is cut in the plaster base where it is desired to place the box, and the box inserted until the projecting flanges on the box rest against the front side of the base. Screws are then passed through the perforations into the plaster base to fasten the box in place and prevent its removal.

The purpose of the present invention is to provide an outlet box which may be more quickly and easily secured to the plaster base, regardless of what may be used as the base.

More particularly the invention comprises an outlet box having a pair of clamps pivotally mounted on opposite sides of the box, which are adapted to securely fasten the box within the opening without the use of screws, nails, or like means such as are commonly used, by engaging the rear of the plaster base and causing the same to be clamped between said clamps and the projecting flanges previously referred to.

It is also a purpose of this invention to provide means for locking the clamp in position after it has been pressed tightly against the rear of the plaster base so that there will be no danger of the same becoming loose and the box shifting in or being accidentally removed from the opening, but which may, if desired, be released to permit intentional removal of the box.

The invention will be further described by reference to the accompanying drawings, but it will be understood that this more detailed description and illustration is intended as an exemplification of the invention and that it is not limited thereto.

In these drawings:

Fig. 1 is a face view of a portion of a wall before the plaster is applied showing the outlet box clamped to the plaster base;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is an end view of the outlet box in place with the plaster base being shown in section;

Fig. 4 is a sectional view on line 4—4 of Fig. 2; and

Fig. 5 is a view similar to Fig. 3, but showing a modified way of locking the clamps in position.

In the accompanying drawing, the numeral 1 designates the base which holds the plaster on the wall, and in the instant case consists of ordinary wood lathing. However, the kind of plaster base used is not material as the present invention is adapted for use with plaster-board and various other bases which are in common use. When it is desired to make an outlet for the electrical conduits an opening 2 is cut in the base 1 at the desired location and an outlet box 3 inserted therein.

The outlet box 3 is of ordinary construction and comprises a sheet iron rectangular box having flanges 4 and 5, which are adapted to rest against the front of the plaster base and limit the inward movement of the box, and lugs 6 and 7 provided with threaded openings by means of which an electrical switch 8, shown in dotted lines in Fig. 1, may be secured within the box.

While the flanges 4 and 5 limit the inward movement of the box, they do not prevent the same from being moved outward, or from shifting sidewise in the opening. In order that the box 3 may be quickly and effectively fastened within the opening 2 so that it may not shift sidewise or be accidentally removed, but so that it may be intentionally removed if it becomes necessary, clamping levers 9 and 10 are pivotally mounted at 11 and 12 on opposite sides of the box. Each clamping lever consists of an outer end portion 13, projecting through notches 14 and 15 in the end walls of the box a distance sufficient to effectively grip the rear side of the plaster base 1, and a handle portion 16 extending in the opposite direction from the pivotal point which, when depressed within the box,

causes the ends 13 to engage the rear of the plaster base and clamp it against the flanges 4 and 5 as will be hereinafter more fully described. In order that the end portions 13 of the levers may more effectively grip the plaster base to hold the box from shifting sidewise within the opening, they are provided on their upper or engaging edge with serrations 17, which, when the lever is in engaged position, become embedded in the rear surface of the plaster base.

As is clearly shown in Figs. 2 and 3, the lower side 18 of end portions 13 of the clamping levers 9 and 10 are cut on an arc the center of which is the pivotal point of the lever, and that the notches 14 and 15 through which the ends 13 project are just deep enough to provide sufficient clearance for the levers as they are swung about their pivotal points. By thus enlarging the ends 13 and making their lower sides of arcuate shape as just described, the ends will at all times substantially fill the notches and prevent the spread of fire should same occur through a defect in the electrical switch or wiring in the box.

To provide means for locking the clamping levers 9 and 10 in depressed position so that they will maintain the ends 13 in firm engagement with the rear of the plaster base, each lever is provided with a lug 19, which is preferably struck from the handle portion of the lever and which is adapted to engage a series of openings 20 formed in the sides of the box. While the lugs 19 are preferably formed integral with the handle portion of the levers 9 and 10 and struck therefrom, it will be obvious that the lugs may be in the form of a detent pivoted to the levers and adapted for engagement with the edges of the openings 20.

It will thus be seen that to fasten the outlet box in place it is only necessary to insert it in the opening 2 until the flanges 4 and 5 come to rest against the front of the plaster base, and then depress the handles 16 until the ends 13 bear hard against the rear of the base with the serrations embedded therein and clamp the same between the flanges 4 and 5 on the front and the end portions 13 of the levers on the rear. When the plaster base has been thus gripped, each lever is moved sidewise until the lugs 19 engage one of the openings 20 and hold the lever in clamping position. There is sufficient play around the pivots 11 and 12 to permit such sidewise movement of the levers to cause the lugs to engage the openings. When the levers have thus been locked by causing the lugs 19 to engage the openings 20, the switch 8 is inserted within the box and held in place by screws threaded into the lugs 6 and 7. This insertion of the switch within the box secures the clamping levers in locked position as there is not sufficient space between the sides of the switch and the levers to permit the levers to move sidewise in the opposite direction a distance sufficient to cause the disengagement of the lug 19 from the openings 20. If it should at any time become necessary to remove the outlet box from the wall it is only necessary to remove the switch 8 and then move the clamping levers 9 and 10 inwardly to cause the lugs 19 to become disengaged from the openings 20, and then pull them forward and upward to cause the ends 13 to move downwardly and inwardly through the notches to the position shown in dotted lines in Fig. 2. When the clamping levers are in this position the box is free to be pulled forward and out of the opening 2.

In the modified form shown in Fig. 5, the side walls of the box 3 are not provided with a series of openings for the reception of the lugs 19, but instead are provided with a plurality of indentations 21 which coact with the lugs 19 to hold the levers in depressed position. In the present case the indentations 21 are shown as being similar to ratchet teeth, but they may be circular or take any other form as long as they will effectively hold the lugs 19 from accidental displacement. This form of means for holding the clamping levers in depressed condition has the advantage over the form shown in Figs. 1 to 3 inclusive in that it is not necessary to provide openings in the side of the box through which fire might possibly pass.

I claim:

1. An outlet box for electrical conduits having means carried entirely thereby for clamping the box to a wall.

2. An outlet box for electrical conduits having means pivoted thereto for securing the box to a wall.

3. An outlet box for electrical conduits having means pivoted thereto for clamping the box to a wall.

4. An outlet box for electrical conduits having means secured within the box and extending through the wall of the same to fasten the box to a wall.

5. An outlet box for electrical conduits having means secured within the box and extending through the wall of the same to clamp the box to a wall.

6. An outlet box for electrical conduits having means pivoted within the box and extending through the wall of the same to fasten the box to a wall.

7. An outlet box for electrical conduits having means pivoted within the box and extending through the wall of the same to clamp the box to a wall.

8. An outlet box for electrical conduits having a clamping member pivoted to the inside of the box and having one end extending through the box to engage a wall to fasten the box to the wall.

9. An outlet box for electrical conduits

having a pair of clamping members pivoted to opposite sides of the box on the inside thereof, said clamping members extending through the box to engage a wall and fasten the box to the same.

10. An outlet box for electrical conduits having a pair of clamping members pivoted to opposite sides of the box on the inside thereof, said clamping members extending in opposite directions and passing through opposite sides of the box to engage a wall and fasten the box to the same.

11. An outlet box for electrical conduits having a flange projecting from one side thereof adapted to bear against the front of a wall and means permanently carried by the box for engaging the rear of the wall and clamping the wall between said means and the projecting flange.

12. An outlet box for electrical conduits having a flange projecting from one side thereof adapted to bear against the front of a wall and means pivoted to said box for engaging the rear of the wall and clamping the wall between said means and the projecting flange.

13. An outlet box for electrical conduits having a flange projecting from one side thereof adapted to bear against the front of a wall and means pivoted within said box and extending through the side thereof for engaging the rear of the wall and clamping the wall between said means and the projecting flange.

14. An outlet box for electrical conduits having flanges projecting from opposite sides thereof adapted to bear against the front of a wall and a pair of clamping members pivoted on the inside of the box and extending through opposite sides thereof and adapted to engage the rear of the wall and clamp the wall between said clamps and the projecting flanges.

15. An outlet box for electrical conduits having a clamping lever for fastening the box within an opening in a wall and means for locking said clamping lever in position.

16. An outlet box for electrical conduits having a pivoted clamping lever for fastening the box within an opening in a wall and means for locking said clamping lever in position.

17. An outlet box for electrical conduits having a clamping lever for fastening the box within an opening and means carried by said lever and cooperating with the side of the box for locking the lever in position.

18. An outlet box for electrical conduits having a clamping lever for fastening the box within an opening and a lug on said lever for engaging the side of the box for locking the lever in position.

19. An outlet box for electrical conduits having a projecting flange adapted to bear against the front of a wall, a clamping lever pivoted on the inside of the box, one end of said lever extending through the side of the box and adapted to bear against the rear of the wall to clamp the wall between said end and said flange, the other end of said lever forming an operating handle, and means carried by said lever for engaging the side of the box and locking the lever in position.

20. An outlet box for electrical conduits having an opening in the wall thereof, a clamping lever pivoted within the box and having an end thereof extending through the opening and substantially filling the same when in clamping position, and means cooperating with said lever whereby the box may be clamped in position in a wall.

21. An outlet box for electrical conduits having an opening and a flange projecting from one side thereof adapted to bear against the front of a wall, a clamping lever pivoted within the box and having an end thereof extending through the opening and substantially filling the same when in clamping position, said end of the lever being adapted to engage the rear of the wall and clamp the wall between said end and the projecting flange.

In testimony whereof I affix my signature.

WALTER R. NEALL.