Dec. 23, 1930. O. E. LOGAN 1,786,353

DEVICE FOR SECURING OUTLET BOXES TO THEIR HANGERS

Filed July 26, 1927

Fig. 1.

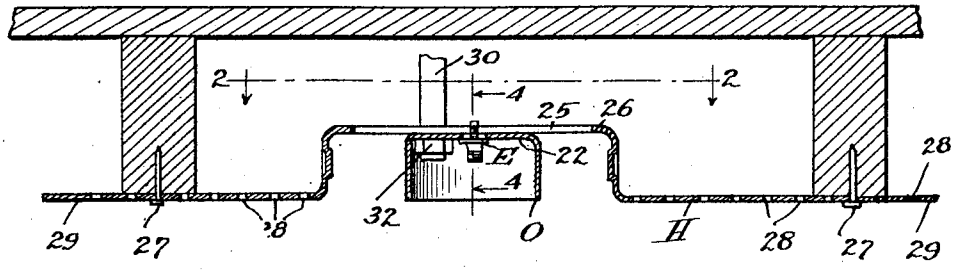


Fig. 2.

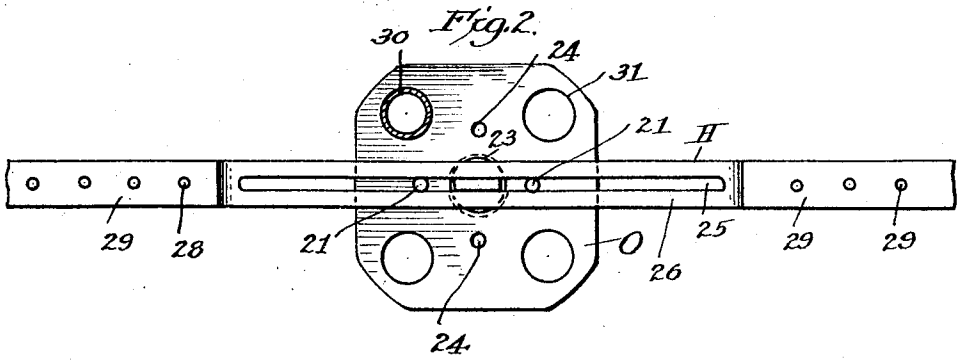


Fig. 3

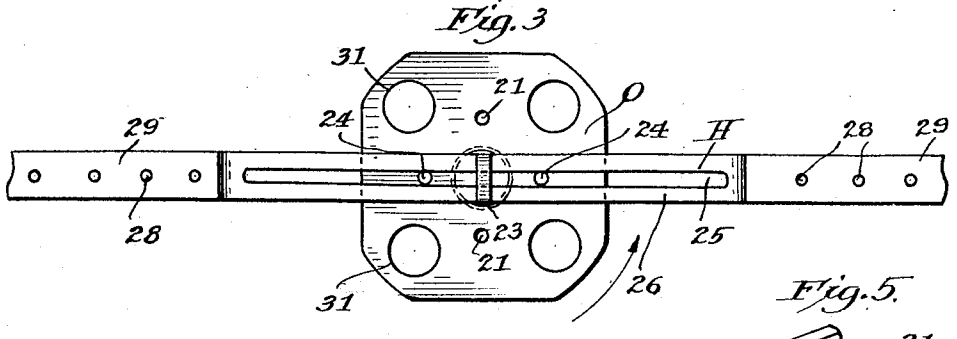


Fig. 5.

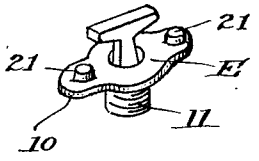
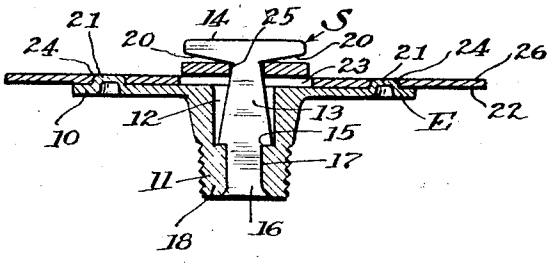


Fig. 4.



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UNITED STATES PATENT OFFICE

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DEVICE FOR SECURING OUTLET BOXES TO THEIR HANGERS

Application filed July 26, 1927. Serial No. 208,588.

My invention relates to and has for a purpose the provision of a simple and inexpensive device by means of which an outlet box such as is commonly used in electric wiring at fixtures can be firmly secured to the usual form of hanger employed in supporting the outlet box from a wall or ceiling, the device entirely dispensing with all forms of screw fastening means and reducing to a minimum the time and labor required to assemble the outlet box and hanger, to the end that the present tedious and time assembling operation can be performed with the utmost ease and dispatch, and without the use of tools.

It is also a purpose of my invention to provide a device of the above described character embodying means by which the outlet box will be drawn into snug engagement with the hanger during the assembling operation so as to insure the rigid supporting of the outlet box, the device performing all the functions of fastening means heretofore proposed for this purpose and without their attendant disadvantages.

I will describe only one form of device for securing outlet boxes to their hangers embodying my invention and will then point out the novel features in claims.

In the accompanying drawing:

Figure 1 is a view showing in vertical section one form of securing device embodying my invention in applied position to an outlet box and hanger.

Figure 2 is an enlarged sectional view taken on the line 2—2 of Figure 1 and illustrating the first position assumed by the device during the assembling operation.

Figure 3 is a view similar to Figure 2 and illustrating the position occupied by the device in securing the outlet box to the hanger.

Figure 4 is an enlarged sectional view taken on the line 4—4 of Figure 1 and looking in the direction of the arrows, and

Figure 5 is a perspective view of the device.

Referring specifically to the drawings in which similar reference characters designate similar parts in each of the several views, my invention in its present embodiment comprises an element designated generally at E in the form of an elongated flat body 10 having medially between its ends a laterally extending hollow and extending threaded projection 11 to form a pocket 12 in which the shank 13 of a headed stud S is adapted to be received.

In the present instance the headed stud S is constructed of flat sheet metal in the form of a T so that its head 14 extends from opposite sides of the shank 13, while the latter is flared outwardly and shouldered as indicated at 15 to provide a reduced end 16 which is insertable through an opening 17 formed in the bottom 18 of the pocket 12 and swaged as shown at 19 to permanently secure the stud to the body with its head 14 disposed beyond the body. The under side of the head 14 is oppositely tapered from the shank 13 outwardly to its ends to provide inclined or cam surfaces 20 while adjacent its ends the body 10 is laterally outstruck to form a pair of protuberances 21.

In the use of the device above described it is placed with the body 10 flatwise against the inner side of the bottom wall 22 of a conventional form of cup shaped outlet box O, with the head 14 of the stud S projected through the usual central opening 23 formed in the bottom wall and the protuberances 21 projecting into openings 24 also usually provided in the wall 22 as is clearly shown in Figure 4. With the device held in its position it will be fixed against rotation relative to the outlet box, due to the engagement of the protuberances 21 within the openings 24. The outlet box and a conventional form of flat metal hanger H are now brought together and the head 14 of the stud S arranged parallel to and is then extended through the usual slot 25 of the hanger. By now rotating either the outlet box or hanger through an arc of 90° the head 14 will be disposed transversely of the length of the slot 25, and during such rotation the cam surfaces 20 will act against the hanger to draw the outlet box into snug engagement with the hanger, thus firmly securing the box and hanger together. The hanger can now be secured to a wall or ceiling by extending nails 27 or other fastening members through the usual openings 28

provided in the extension 29 of the U-shaped portion 26 the fastening members being driven into the floor beams or studding of the ceiling or wall respectively as is clearly shown in Figure 1.

The fixture (not shown) to be hung or supported can now be secured to the threaded projection 11 as is conventional, and it will be clear that when the usual metal conduits 30 are extended through openings 31 formed in the bottom wall 22 of the outlet box and secured in place by the nuts 32, rotation of the outlet box will be positively prevented, so that the outlet box will be fixedly secured from displacement from the hanger.

If desired the device could also be permanently secured to the outlet box by welding the body 10 to the box, in which instance the protuberances 21 would be unnecessary and could be dispensed with. The permanent securing of the device to the outlet box would also eliminate the necessity of the operator holding the device in place in the box during the assembling of the box and hanger.

Although I have herein shown and described only one form of device for securing outlet boxes to their hangers embodying my invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and the spirit and scope of the appended claims.

I claim:

1. In combination, a hanger adapted to be secured to a wall or ceiling and provided with a slot, an outlet box having openings in one wall thereof, and a device in the box comprising a body portion having protuberances received in certain of said box openings to prevent lateral shifting of the device in the box, and a stud fixedly secured to and projecting from the body portion and extendible through another of the box openings to project from the box, said stud having an elongated head insertable through said hanger slot when occupying a position parallel with respect to the length of the slot and operable when occupying a position transversely of the slot in response to relative rotation between the hanger and box, to secure the box to the hanger.

2. The combination as embodied in claim 1 wherein the head of said stud is provided with a cam surface operable when the relative rotation is being effected to co-act with the hanger in drawing the box into snug engagement with the hanger.

3. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body adapted to be inserted into an outlet box and having a stud comprising a shank projecting laterally from the body and provided with a transversely disposed elongated head adapted to be extended through a slot in a hanger for co-action with the hanger in securing the box to the hanger in response to relative rotation between the two.

4. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body, a substantially T shaped stud projecting laterally from a side of the body and capable of being inserted through the slot of a hanger in one position of the stud, and a protuberance on said side of the body adapted to be received in an opening in a wall of an outlet box for the purpose described.

5. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body, a substantially T shaped stud projecting from one side of the body and capable of being inserted through the slot of a hanger in one position of the stud, cam surfaces on the head of the stud, and a threaded projection extending from the opposite side of the body.

6. In combination, a hanger adapted to be secured to a wall or ceiling and provided with a slot, an outlet box having an opening in one wall thereof, and a device insertable into the box, comprising a body having a stud extendible through said opening to project from the box, the stud having a laterally projecting head insertable through the hanger slot when occupying a position substantially parallel with respect to the length of the slot and operable when occupying a position at an angle to the length of the slot in response to relative rotation between the hanger and box, to secure the box to the hanger.

7. The combination as embodied in claim 6 wherein the head of the stud is provided with a cam surface operable in response to the relative rotation to co-act with the hanger in drawing the box into snug engagement with the hanger.

8. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body, a substantially T shaped stud projecting laterally from a side of the body and permanently connected to the latter, and a protuberance on said side of the body.

9. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body, a substantially T shaped stud projecting laterally from a side of the body and rigid with the latter, and a protuberance on said side of the body.

10. As an article of manufacture, a device for securing outlet boxes to hangers comprising a body, a substantially T shaped stud projecting laterally from a side of the body and rigid with the latter, cam surfaces on the head of the stud, and a threaded projection extending from the other side of the body.

11. In combination, a hanger adapted to be secured to a wall or ceiling and provided with a slot, an outlet box having an opening in one wall thereof, and a device insertable into the box, comprising a body having a stud ex-

tendible through said opening to project from the box, the stud having a laterally projecting head insertable through the hanger slot when occupying a position substantially parallel with respect to the length of the slot and operable when occupying a position at an angle to the length of the slot in response to relative rotation between the hanger and box, to secure the box to the hanger, and means for preventing relative rotation between the device and outlet box.

12. In combination, a hanger adapted to be secured to a wall or ceiling and provided with a slot, an outlet box having an opening in one wall thereof, and a device insertable into the box, comprising a body having a stud extendible through said opening to project from the box, the stud having a laterally projecting head insertable through the hanger slot when occupying a position substantially parallel with respect to the length of the slot and operable when occupying a position at an angle to the length of the slot in response to relative rotation between the hanger and box, to secure the box to the hanger, and means for preventing relative rotation between the device and outlet box, comprising a protuberance on the body adapted to enter an opening in the outlet box.

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