Oct. 7, 1930. M. M. CLAYTON 1,777,291

FIXTURE AND OUTLET BOX SUPPORT

Filed July 25, 1928

Fig. 3.

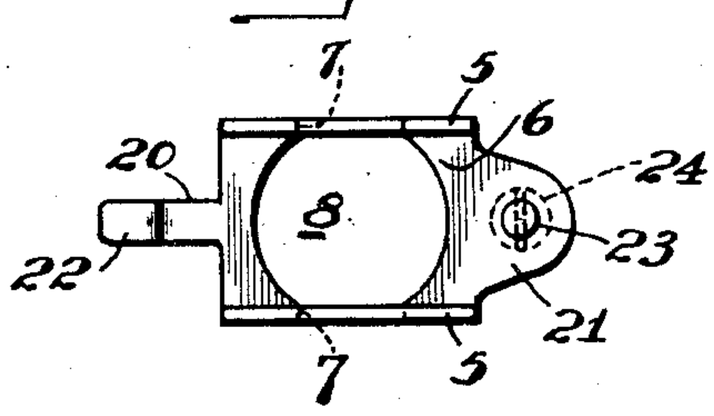

Fig. 5.

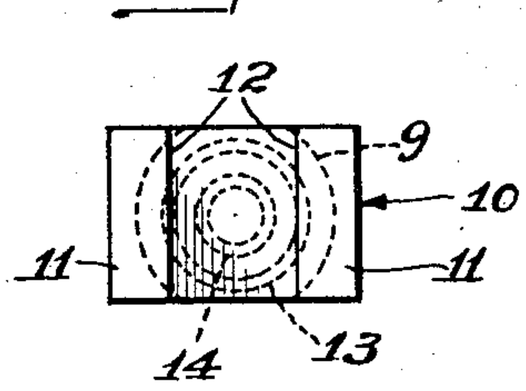

Fig. 4

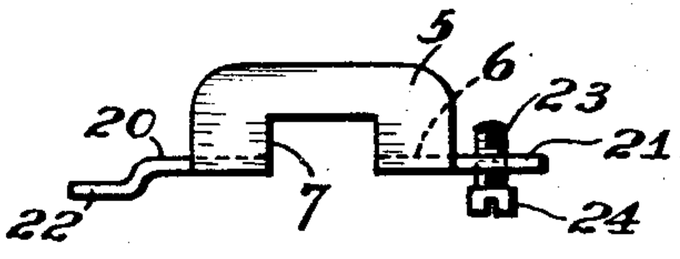

Fig. 6.

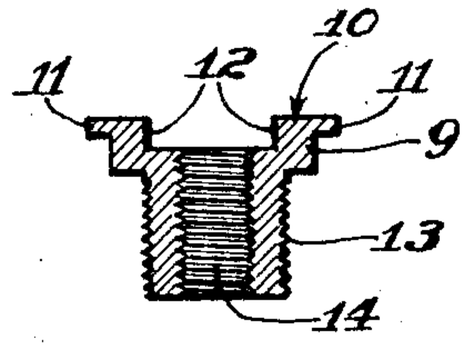

Fig. 8.

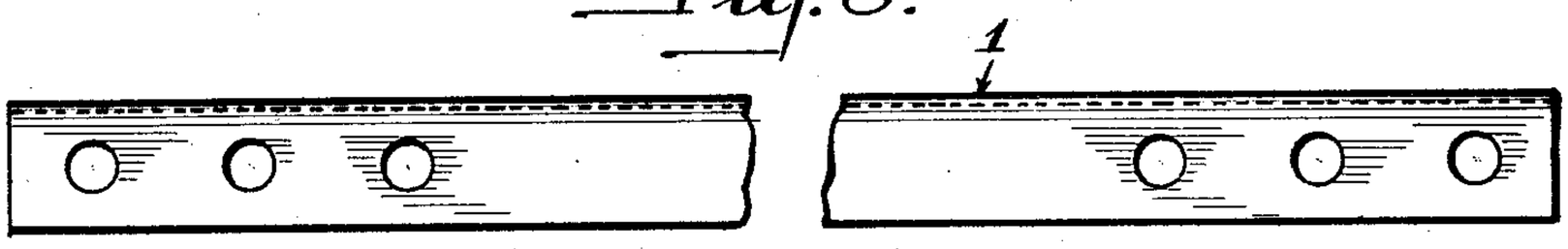

Fig. 1

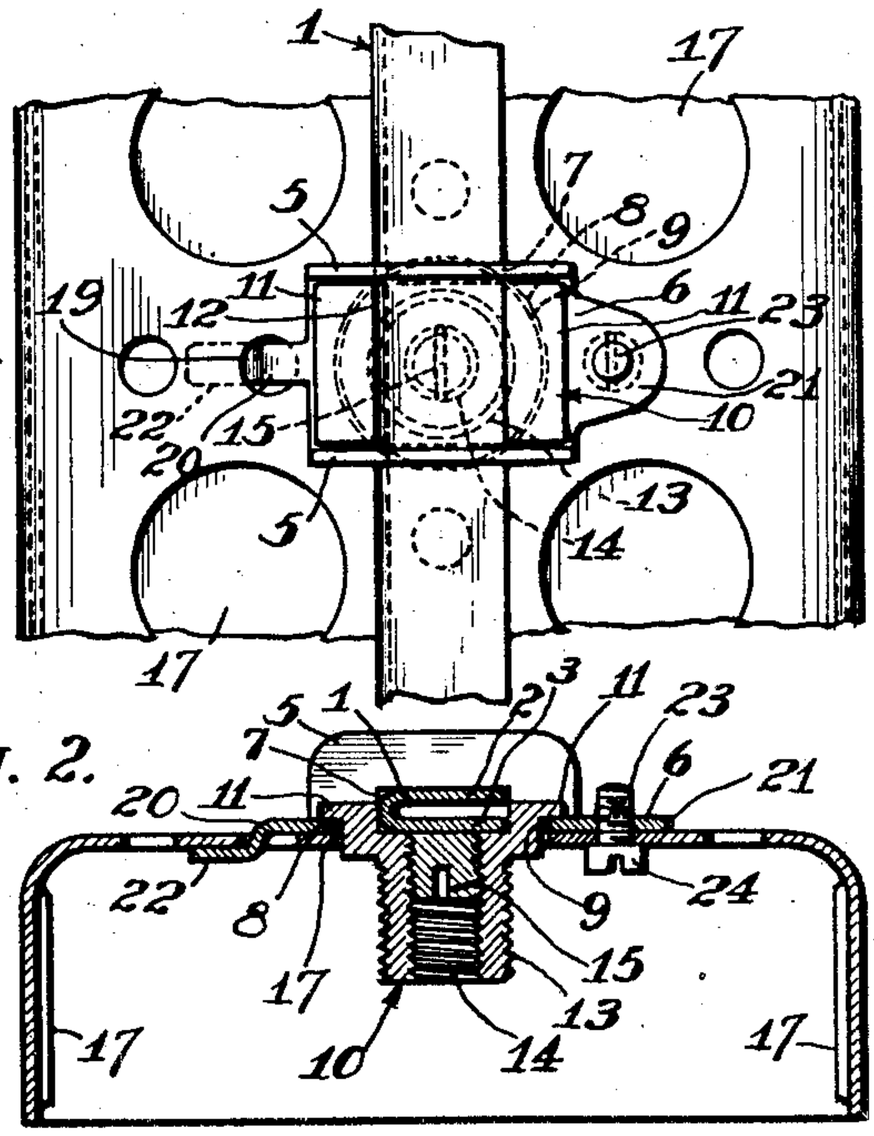

Fig. 7.

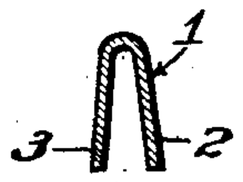

Fig. 2.

WITNESS

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UNITED STATES PATENT OFFICE

MARTIN M. CLAYTON, OF BADEN, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NATIONAL ELECTRIC PRODUCTS CORPORATION, A CORPORATION OF DELAWARE

FIXTURE AND OUTLET-BOX SUPPORT

Application filed July 25, 1928. Serial No. 295,255.

The invention relates to that class of supports for outlet-boxes and fixtures in systems of electrical wiring in buildings wherein the same are connected to and supported by a so-called hanger-bar, which in its turn is secured to and spans the space between adjacent joists or other structural members; and the object is to provide a support for that purpose which is of simple construction, is adapted to boxes and like fixtures of the accepted commercial types without requiring any modification thereof, and will hold the same firmly against displacement and rotation. A further object which is attained is that the member or members which serve to connect the box to the bar may be initially adjusted to the desired position upon the bar and be locked in place, and the box may be added and secured in place subsequently without disturbing such predetermined fixed relation of the parts.

Another object is to provide a hanger-bar to which a fixture may be attached without an outlet box, if so desired, and secured against displacement.

Referring to the accompanying drawings, Figure 1 is a partial exterior plan view of an outlet-box secured to a hanger-bar by the means to be described. Figure 2 is a cross-sectional elevation taken on the line II—II of Figure 1. Figure 3 is a plan view, and Figure 4 is a side elevation, of what I call the hanger. Figures 5 and 6 are respectively like views of a fixture stud. Figure 7 is a cross-section of a preferred form of bar. Figure 8 is a plan view of the bar with its intermediate portion broken away.

It will be understood that the view of the bar 1 in Figure 1 is partial only, and that it is extended at the opposite sides of the box and its ends are secured to neighboring joists of the building, or to other suitable supports, in ways well known in the art. In Figure 7 I have shown the bar 1 as a strip of steel or other suitable metal folded longitudinally to form the connected leaves 2, 3, projecting from the apex of the fold in diverging lines, so that when subjected to compression inwardly, they will be put under an outward tension. But a solid bar may be used, as well as a bar of any suitable cross-sectional form.

The hanger 4 is of channeled form having opposite wings 5 and the web or floor 6. Aligned slots 7 are cut in the wings 5, and these slots open at the base of the wings into the opening 8 in the web 6, the latter opening being of a form and size suitable to receive the shank 13 depending from the head 9 of the fixture-stud 10. At the top of the head 9 of the fixture-stud are opposite rectangular flanges 11 which rest upon the floor 6 of the hanger at the opposite ends of the opening 8, while the stud is prevented from turning in the seat thus formed by the bearing of the opposite side edges of the flanges 11 against the inner faces of the opposite wings 5 of the hanger. The open transverse channel 12 is formed in the head 9 of the fixture-stud, and this channel registers with the open-bottom slots 7 in the wings 5 above, so as to form a passage-way for the bar 1 through the assembled hanger and stud.

The shank 13 of the fixture-stud is cylindrical in form and it is threaded externally for the attachment of any suitable fixture. The shank 13 also has an internally threaded hollow bore 14 within which works the set-screw 15. The said internally threaded hollow bore 14 within which works the set-screw 15 is threaded to an accepted pipe standard thus permitting the forward end of the threaded bore to be used for attaching fixture stems, the set-screw 15 being similarly threaded. Thus by driving the screw 15 inwardly its tip will be made to bear against the bar 1 and to bind the bar tightly against the upper edges of the slots 7 in the wings 5 above and on the opposite sides of the screw 15.

As thus described, the loosely assembled hanger and fixture-stud may be pushed over the end of the bar and kept from slipping off afterward by crimping or bending the ends of said bar and would thus be assembled and shipped. In using, the bar is secured at its opposite ends to the supports, the loosely assembled hanger and fixture-stud may then be adjusted to the desired point on said bar, the bar lying in the passageway formed by

the channel in the top of the fixture-stud and the slots 7 in the wings 5 of the hanger. When the desired adjustment has been made the hanger and stud are locked upon the bar by driving the set-screw 15 inwardly, and thereafter, by means independent of the means for locking the hanger in place, the outlet-box or other fixture may be secured to the hanger whenever convenient.

The outlet-box 16 is shown in the drawings as one of a well-known type. It may have the usual knock-out openings 17 in its side-walls, and in its base as well, and in its base it also has the central opening 18, and symmetrically arranged around the opening 18, and at a standard distance from centre to centre, the usual diametrically opposite holes 19 for nails or screws. The web or floor 6 of the hanger has at its opposite ends the extended ears or projections 20 and 21. The ear 20 has at its outer end a hook 22 adapted to enter one of the holes 19 in the base of the box, and the ear 21 has formed in its outer end a threaded hole 23 in position to register with the diametrically opposite hole 19. In positioning the box one of the holes 19 in its base is looped upon the hook 22, and then by swinging upon this connection as a hinge the central opening 18 is looped around the shank 13 of the fixture-stud and the opposite hole 19 is brought into registry with the threaded hole 23 in the ear 21. Then by means of the screw 24 the box is locked to the hanger as shown in Figures 1 and 2 of the drawings.

I claim as my invention:

1. A fixture and outlet-box support comprising a channeled hanger having opposite lateral wings, aligned openings in said wings adapted to receive a transversely extending bar, means carried by said hanger adapted to engage the bar at a point between the lines of said wings and bind the bar in said openings, and means at the opposite ends of said hanger adapted to engage an outlet-box.

2. A fixture and outlet-box support comprising a hanger having an apertured floor and opposite lateral upstanding wings, a fixture-stud comprising a head resting on said floor between said wings and thereby restrained from turning and a depending tubular internally threaded stud portion projecting through said aperture, a channel in the head of said fixture-stud at right-angles to said wings, slots in said wings in registry with said channel, a bar in said channel and slots, and a screw in the bore of said fixture-stud adapted to engage said bar and bind the said members together.

3. A fixture and outlet-box support comprising a hanger having an apertured floor and opposite lateral upstanding wings, a fixture-stud comprising a head resting on said floor between said wings and thereby restrained from turning and a depending tubular internally threaded stud portion projecting through said aperture, a channel in the head of said fixture-stud at right-angles to said wings, slots in said wings in registry with said channel, a bar in said channel and slots, and a screw in the bore of said fixture-stud adapted to engage said bar and bind the said members together, the threads for said screw in said bore of said fixture stud being of pipe standard in order to receive parts of electric fixtures similarly threaded.

4. A fixture and outlet-box support comprising a hanger having an apertured floor and opposite lateral upstanding wings, a fixture-stud comprising a head resting on said floor between said wings and thereby restrained from turning and a depending tubular internally threaded stud portion projecting through said aperture, a channel in the head of said fixture-stud at right-angles to said wings, slots in said wings in registry with said channel, a bar in said channel and slots, a screw in the bore of said fixture-stud adapted to engage said bar and bind the said members together, and means at the opposite ends of said hanger adapted to engage an outlet-box.

5. A fixture and outlet-box support comprising a hanger having an apertured floor and opposite lateral upstanding wings, a fixture stud having a head resting on said floor between said wings and thereby restrained from turning and a depending tubular internally threaded stud portion projecting through said aperture, a channel in the head of said fixture stud at right angles to said wings, slots in said wings in registry with said channel, and a transversely extending bar in said channel and slots.

In testimony whereof I have hereunto set my hand.

MARTIN M. CLAYTON.