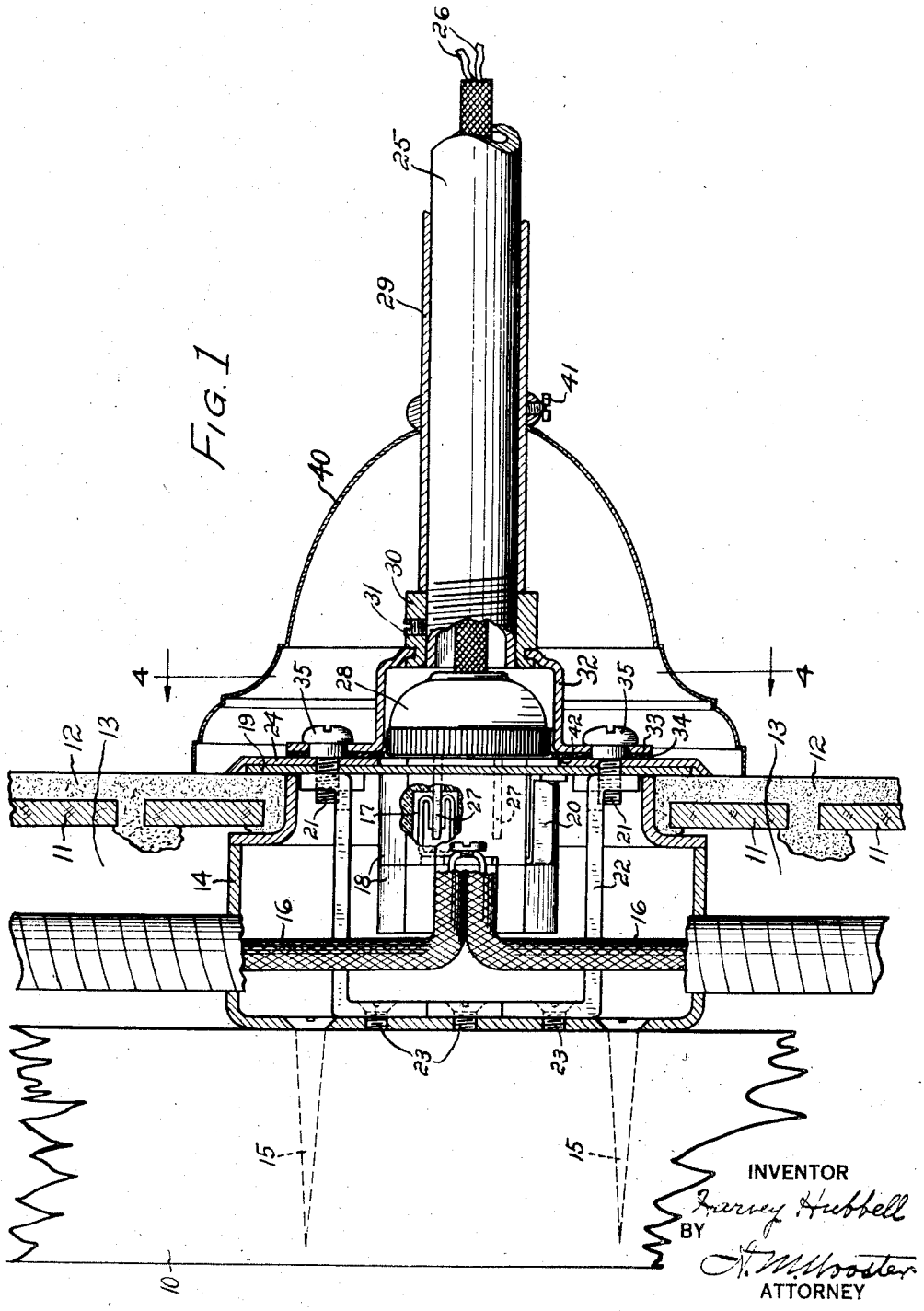
March 18, 1924. 1,486,896

H. HUBBELL

MEANS FOR ATTACHING FIXTURES TO OUTLETS

Filed March 1, 1921 2 Sheets-Sheet 1

FIG. 1



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Filed March 1, 1921 2 Sheets-Sheet 2

FIG. 2

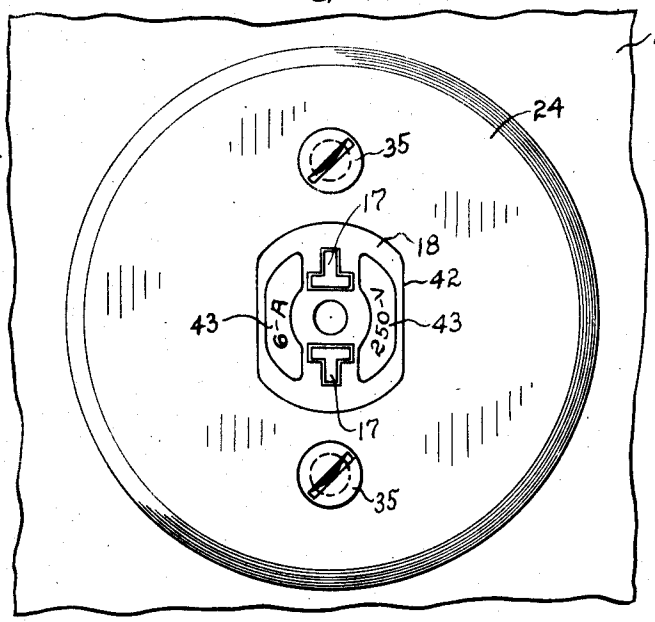


FIG. 3

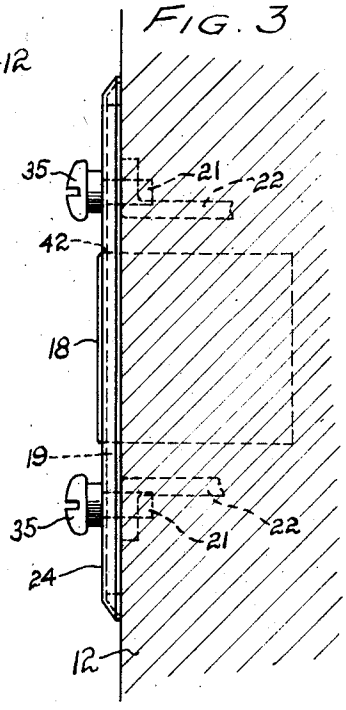


FIG. 4

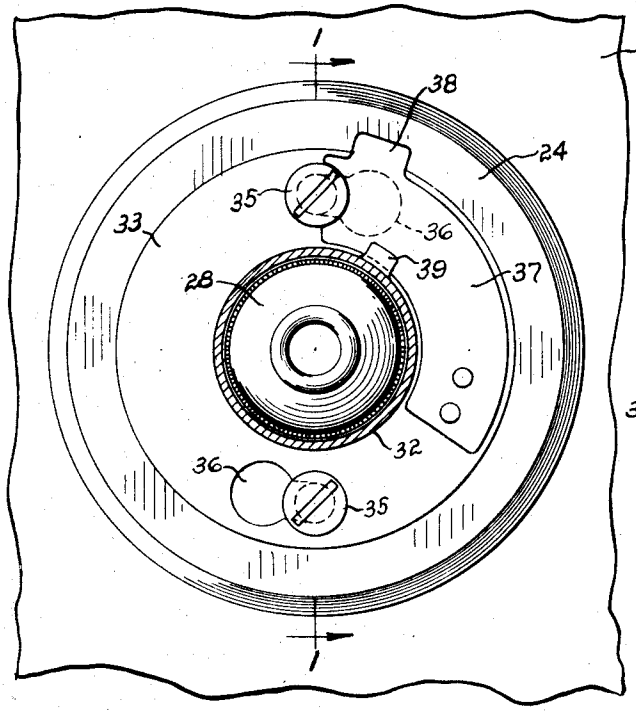
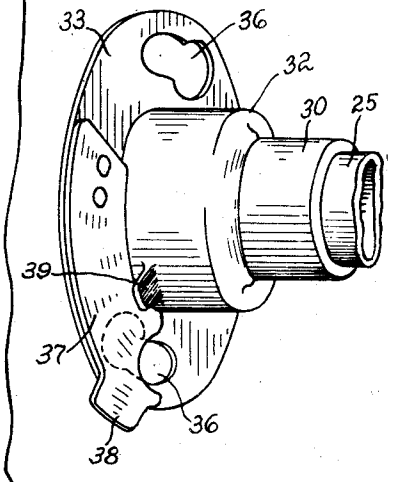


FIG. 5



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Patented Mar. 18, 1924.

1,486,896

UNITED STATES PATENT OFFICE.

HARVEY HUBBELL, OF BRIDGEPORT, CONNECTICUT.

MEANS FOR ATTACHING FIXTURES TO OUTLETS.

Application filed March 1, 1921. Serial No. 448,784.

To all whom it may concern:

Be it known that I, HARVEY HUBBELL, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Means for Attaching Fixtures to Outlets (Case A), of which the following is a specification.

This invention relates to means for attaching and supporting electric fixtures and for electrically connecting them with the house wiring.

In accordance with the present building practice it is customary to have the house wiring done by a skilled electrician prior to the plastering or other finishing of the walls, outlet boxes being provided at the points where fixtures are to be attached, and the ends of the wires being left loosely protruding from these outlet boxes and from the walls, the work of the house wirer being at this time completed. In the subsequent work of putting up the fixtures, the services of a skilled electrician are again required in order to make the necessary electrical connections between the wires of the fixtures and the loose ends of the house wires above referred to. Moreover, the mere mechanical work of properly attaching the fixtures themselves, so as to make a neat job, calls for considerable special ability, so that the placing of the fixtures usually requires the services of two skilled workmen or of a workman who is virtually skilled in two trades. Furthermore, when the ends of the house wires are merely left protruding from the walls, there is nothing to indicate the house circuits of which they form a part, or the capacity of such circuits, or to prevent the attachment of fixtures to the several outlets of such capacity as collectively to overload the circuits in question.

The primary object of the present invention is to overcome these difficulties and to provide an outlet device of such a character that when the work of the house wirer is completed the remaining work of attaching and connecting the fixtures may be performed without the exercise of special skill, means being provided for minimizing the danger of overloading any house circuit.

A more particular object of the invention is to provide a combined fixture support and current outlet or tap which may be readily put in place by the house wirer and whereby the fixtures can subsequently be easily and quickly set up and the necessary electrical connections simultaneously made by a simple operation requiring no special skill or experience, the construction being such as to facilitate standardization of the parts, thereby permitting any fixture to be applied to any outlet, and making it possible to interchange the fixtures at will.

Other objects of the invention are to provide an improved fixture support, which is of inconspicuous and pleasing appearance when no fixture is attached thereto, which has no openings or depressions in which dirt can accumulate, and which, although applied when the house wiring is done, is not subject to injury during the subsequent finishing of the walls.

With the foregoing and other objects in view, I have devised the novel combined fixture support and connector which I will now describe, reference being had to the accompanying drawings, in which:

Fig. 1 is a central longitudinal vertical section of the complete device, taken substantially on the line 1—1, Fig. 4, showing the fixture attached.

Fig. 2 is a front elevation of the support and its associated outlet tap with the fixture removed.

Fig. 3 is a side elevation of the parts shown in Fig. 2.

Fig. 4 is a section on the line 4—4, Fig. 1, with the canopy omitted.

Fig. 5 is a perspective view of the attaching device carried by the fixture.

Referring to Fig. 1, 10 denotes the wall studding, 11 the lathing, and 12 the plastering between which and the studding 10 is the usual air space 13 containing an outlet box 14 of any suitable form, secured to the studding 10 by screws 15, and into which lead the ends of the house wires 16. The ends of the wires 16 are electrically connected to the socket terminals 17 of a receptacle 18 composed of insulating material and of any usual or well known form, said receptacle constituting an outlet tap and forming one member of an electric coupling, the complementary member of which is carried by the fixture, as hereinafter described. 19 denotes a sub-plate connected with the receptacle 18, as by angle brackets 20 riveted to said plate and engaged in notches in said receptacle. 21 denotes

screws attaching the sub-plate 19 to the outlet box 14, as by engagement with threaded openings in ears formed at the outer end of a frame or yoke 22 located in said outlet box and secured to the bottom thereof by screws 23, or, if preferred, any other suitable means may be employed to secure the plate to the outlet box. The sub-plate 19 is of a sufficient length to extend beyond the edges of the opening in the outlet box 14, so as to rest at its ends upon the face of the wall beyond said opening, and is covered and enclosed, when the support is fully assembled, by a face plate 24 of pleasing shape and finish. The face plate 24 is provided with a central opening 42 to receive the outer end of the receptacle 18, and is secured in place by the screws 21 which secure the sub plate to the outlet box.

25 denotes the stem of an electric fixture which may be of any desired character and which is, therefore, not shown in detail herein. The stem 25 is of tubular form to enclose the wires 26 which lead to the lamps, or other current consuming devices carried by the fixture. The wires 26 are connected at their inner ends to the plug terminals 27 of a cap 28 which is composed of insulating material and constitutes an electric coupling member complementary to the receptacle 18. The stem 25 may, if desired, be covered by a finishing tube 29 and has a threaded inner end to receive a threaded collar 30 secured in place thereon by a set screw 31. The collar 30 has a swaged connection with an attaching member in the form of a thimble 32 loosely surrounding the cap 28 and having at its inner end an attaching flange 33 adapted to bear against the face-plate 24 and preferably faced on its inner side with cushioning material 34 to prevent marring the finished surface of said face-plate. The screws 21 are formed with shouldered heads 35 to constitute attaching studs which are received in circumferentially disposed keyhole slots 36, in the flange 33, being retained in the narrower ends of said slots, when moved thereinto, by engagement with one of them of a flat retaining spring 37 riveted to the flange 33 and having a finger piece 38 whereby it may be raised to release the stud, the raising movement being limited to the requisite amount by a lug 39 projecting from the thimble 32. The entire combined support and coupling may, if desired, be enclosed and covered by the usual ornamental canopy 40 secured in place upon the fixture stem by a set-screw 41. Thus it will be seen the outlet box with the plates 19 and 24 and screws 35, forms a fixed supporting device for the fixture.

When the house is wired, the ends of the wires 16 are connected with the socket terminals 17 of the receptacle 18, and the sub-plate 19, by which said receptacle is carried, is secured to the outlet box by the screws 21, or, preferably, by other temporary screws employed for this purpose. The parts are left in this condition during the subsequent finishing of the wall, any marring of or other minor injury to the sub-plate 19 at this time being wholly immaterial inasmuch as said sub-plate is subsequently covered and concealed by the face-plate 24. After the walls have been finished, the temporary screws are removed and the face-plate 24 attached by the screw studs 21, said screw studs also serving to permanently secure the sub-plate 19. The parts will then be in the condition shown in Figs. 2 and 3 and may be so left if no fixture is to be attached, said parts in such event presenting a finished and attractive appearance and being incapable of accumulating dirt, the studs 35 not projecting to a sufficient extent to constitute objectionable obstructions.

When it is desired to attach a fixture, the canopy 40 of such fixture is moved outwardly upon the fixture stem by loosening the set-screw 41, the plug terminals 27 of the cap or coupling member 28 are inserted in the socket terminals 17 of the receptacle or complementary coupling member 18, and the studs 35 at the same time introduce into the wider portions of the keyhole slots 36, the retaining spring 37 yielding to permit such insertion. Thereafter, the fixture is given a slight turn to carry the studs 35 into the narrower portions of the slots 36 and permit the spring 37 to lock said studs in this position. This turning movement of the fixture is permitted without disturbing the previously effected electrical connection by reason of the loose mounting of the cap 28 in the thimble 32 and the flexibility of the wires 26 which permit the necessary turning movement of said cap in said thimble. The canopy 40 is finally moved back against the wall and secured in place by the set-screw 41, thereby completing the attachment and connection which, as will be seen, has been effectively but quickly and easily accomplished without the exercise of any considerable amount of skill. It will also be seen that any fixture can, if desired, be as readily detached and moved to another point or replaced by a different fixture, it being understood that the fixed supporting devices will be identical with one another, throughout the building, as will also the attaching devices carried by the several fixtures, thereby rendering said fixtures readily interchangeable.

The outer face of each of the receptacles 18 will preferably be inscribed or imprinted with suitable characters to indicate the current carrying capacity of the particular circuit of which it forms a part, as indicated at 43 in Fig. 2, thereby enabling the person attaching the fixtures to readily determine

whether or not said circuit will be overloaded by the attachment of any particular fixture.

Having thus described my invention, I claim:

1. The combination with a fixed supporting device having projecting studs provided with enlarged heads, of a fixture having a flange provided with keyhole slots adapted to receive said studs and engage the same under said heads, a flat spring carried by said flange adapted to engage one of said studs for locking said studs in the narrower portions of said slots, and a stop lug for limiting the movement of said spring.

2. In a device of the character described, a support, studs comprising a head, an intermediate portion of smaller diameter than the head and a reduced portion of smaller diameter than the intermediate portion and provided with means for securing it to the support, a fixture having keyhole slots adapted to receive the heads of the studs and embrace the intermediate portions to support the fixture, and a spring plate on the fixture adapted to abut the head of one of the studs to prevent removal thereof from its slot.

3. In a device of the character described, an outlet box including a support and adapted for mounting in a wall, a face-plate therefor, studs threaded at one end, having a head at the opposite end and provided with an intermediate shoulder spaced from the head, said support having threaded engagement with the studs, the shoulders of the studs abutting the surface of the face-plate to space the heads therefrom, and a fixture having keyhole slots adapted to receive the heads of the studs and embrace the studs between the heads and face-plate to support the fixture.

4. In a device of the character described, a support, studs having a head and a shoulder spaced therefrom, said studs being also provided with screw thread means for securing them to the support, the shoulders acting to space the heads from the support, a fixture having keyhole slots adapted to receive the heads of the studs and embrace the stud between the heads and shoulders to support the fixture, and a spring plate on the fixture adapted to abut the head of one of the studs to prevent removal thereof from its slot.

In testimony whereof I affix my signature.

HARVEY HUBBELL.