

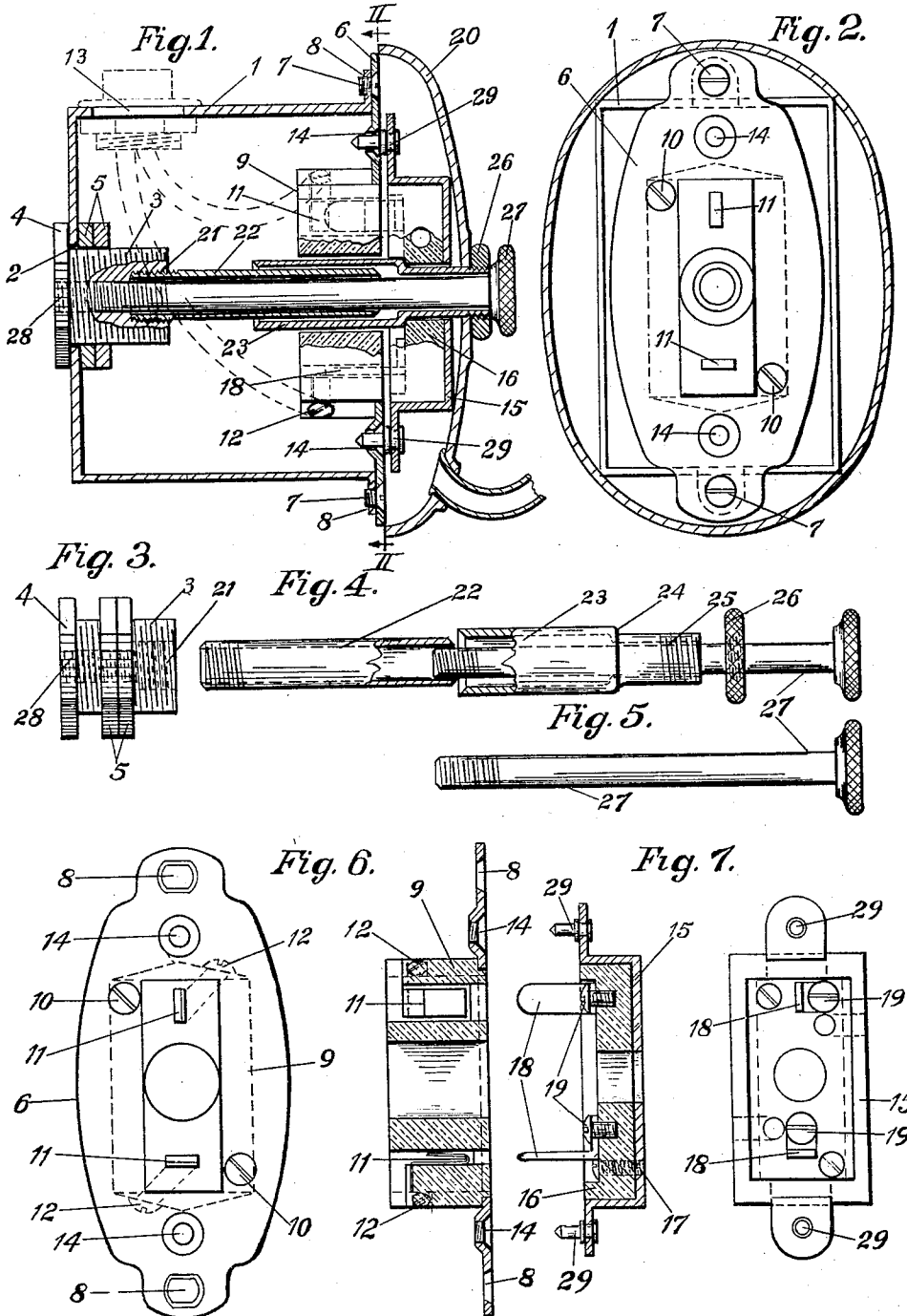
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ELECTRICAL FIXTURE SUPPORTING DEVICE

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## UNITED STATES PATENT OFFICE

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## ELECTRICAL FIXTURE SUPPORTING DEVICE

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This invention relates to certain new and useful improvements in electrical fixture supporting devices, commonly called wall brackets, and the primary object thereof is to provide a device of this type which enables the fixture to be wired at the factory or at any convenient location remote from the outlet box, and to subsequently enable the fixture to then be easily and quickly applied to the outlet box, thereby to eliminate the general or customary practice in the art of wiring the fixture directly to and at the fixed location of the box. This latter or general custom of wiring is laborious and time-consuming, due to the fact that the electrician is working in an inaccessible and difficult location, and the fact that the work must be performed directly at the wall or ceiling or other point where the fixture is to be applied. With this old method, in other words, the electrician is working in cramped quarters, usually not suited for this work and consequently installation is not only rendered tedious, but consumes a great deal of time, and frequently the walls or finish of the buildings in which the fixtures are being installed are defaced and injured.

The invention briefly, therefore, proposes an outlet box to which one member of a two-part electrical connector is affixed, the connector being of a type which enables its two members to be instantaneously connected and disconnected by a mere sliding or other simple relative movement between the members. Thus one member may be wired to the fixture carried by the wall bracket either at the factory or any other location which permits of unhampered manipulation and then applied to the member of the connector which is carried by the outlet box. The fixture is carried by a support, or finishing, or bracket plate which, as is customary, encompasses and conceals the outlet box, means being provided to enable the plate to be easily and quickly connected to the outlet box, as will be later described.

A further object of the invention is to provide a device of this character wherein the separable contact carriers are connected or

disconnected by a relative movement therebetween in a single plane.

A still further object is to provide means independent of the circuit connectors for securing the bracket plate and fixtures carried thereby to the outlet box, said securing means being adapted to facilitate the ready positioning of the parts where outlet boxes are of varying depths or wall finishes vary in thickness.

A further purpose is to provide means for securing the fixture against rotation about the outlet box.

The invention may be best understood by reference to the accompanying drawing wherein:

Figure 1 is a vertical sectional view of the invention applied to a wall or the like.

Figure 2 is a section on line II—II of Figure 1.

Figure 3 is a post shown in the back of the outlet box of Figure 1.

Figure 4 is a stud and supporting sleeve assembly for securing the bracket plate to the outlet box.

Figure 5 is the plain stud of Figure 4 without the telescopic sleeve assembly.

Figure 6 is the front and cross section of the bridge plate carrying the receptacle part of the connector.

Figure 7 is the front and cross section of the plug member.

In proceeding in accordance with the present invention 1 is an outlet box which may be of any form or character and which in the instance of Figure 1 has an opening 2 in the back thereof for receiving post 3. Post 3 is provided with head 4 which prevents it from passing through opening 2, and lock nuts 5 are employed to secure the post firmly in the back of the outlet box.

6 is a bridge plate secured to outlet box 1 by screws 7 seating in threaded openings 8 in the outlet box. The bridge plate 6 has carrying block or receptacle 9 secured thereto by screws 10. Receptacle contact members 11 are disposed in block 9 and secured thereto by screws 12. Also current carrying wires are connected with contacts 11 by screws 12 and passed through opening 13 in

the outlet box. Bridge plate 6 has holes 14, the purpose of which will be later described.

A plug member 15 is composed of a metal plate and a contact carrier block 16 secured thereto by screws 17. The plug carries electrical contact members 18 secured thereto by screws 19. Circuit wires are connected with the plug contacts also by screws 19 and to the light (not shown) supported by the bracket plate. Plug 15 may or may not be connected with bracket plate 20 as desired.

Post 3 is threaded interiorly at 21 to receive telescopic support 22. The other part 23 of telescopic support 22 is provided with shoulder 24, thread 25 and lock nut 26 for securing plug 15 and bracket plate 20 as a unit. Stud 27 passes through lock nut 26, telescopic support 22 and 23 and screws into threads 28 in post 3, drawing bracket plate 20 snugly against the wall over outlet box 1, whereupon dowels 29 enter openings 14 in the bridge plate and secure the parts in alignment, the circuit having been completed by plug contacts 18—18 engaging contact members 11—11.

It will be noticed that bridge plate 6, carrier block 9 and plug 15 have openings through which telescopic support 22 and 23 may be freely passed. Stud 27 may be employed without the telescopic support if desired especially where dowels 29 are employed on the plug and the plug is secured to the bracket plate, as the dowels not only secure the bracket plate against rotation, but support it against movement or slipping on the wall.

From the above it will be apparent that the outlet box 1 is placed in the wall having post 3 secured thereto, and bridge plate 6 secured to the outlet box after circuit wires have been connected to contacts 11. At any convenient location, such as an electrical shop, circuit wires from the light (carried by the bracket plate) are connected to the contacts 18 of plug 15, the fixture thereupon being brought to the location where it is to be installed. The plug member contacts are inserted into the receptacle member and the circuit thus established, dowels 29 seated in openings 14 and stud 27 screwed into its threaded seat in post 3 and thus is completed the installation.

If the telescopic support is used part 22 is threaded into post 3, and part 23 is passed through plug 15 and bracket plate 20 before the electrical connection is made. Part 23 is then slid over part 22 of the telescopic support and the bracket plate, plug contacts and dowels are guided into their relative positions. The fixture is secured against lateral movement by the telescopic support and the dowels, while the dowels also prevent rotative or lateral movement between the bracket plate and outlet box. Stud 27 is then in-

serted to secure the parts firmly in place. A very rigid structure is thus provided.

By unscrewing stud 27 the entire fixture together with its wiring may be instantly removed from the outlet box and carried at will to any desired distant point for inspection, repair or replacement of parts, or for any other reason which may require removal, such as cleaning the walls or hanging pictures, etc.

It will be noted that to install the fixture into position or remove it from the wall a single movement in a single plane is required, the screwing up or unscrewing of stud 27 being to secure into position or release the fixture.

It also will be apparent to those skilled in the art that by providing a threaded opening in the back of the outlet box stud 27 may be screwed thereinto and post 3 together with telescopic support 22—23 dispensed with.

It is to be expressly understood that the invention is susceptible to being practiced by various other modifications, as may fall within the spirit and scope of the following claims and accordingly the examples given are to be considered in the light of such and not an exhaustive enumeration of all or other ways in which the invention may be practiced.

What is claimed is:—

1. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to attach one of the members to the box, a fixture-carrying support formed to receive the electrical wires of the fixture so as to connect said wires to the contacts of the other member, means to connect said support to the outlet box including a member extending through openings provided therefor in the contact-carrying members and having a part on its outer end engageable with the support, and means to connect said member to the rear wall of the box.

2. In combination with an outlet box, an electrical connector including contact-carrying member connectible and disconnectible by relative movement between the members in a single plane, means to attach one of the members to the box, a fixture-carrying support, the other of the members being connectible with the electrical wires of the fixture, means to connect said support to the outlet box including a member extending through openings provided therefor in the contact-carrying members and having a part on its outer end engageable with the support, and means to connect said member to the rear wall of the box.

3. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to attach one of the members to the box, a fixture-carrying support formed to receive electrical wires of the fixture so as to connect said wires to the

contacts of the other member, a stud extending through the support, means to connect the stud to the rear wall of the box, and means carried by the stud and engageable with the support to hold the latter in position.

4. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to attach one of the members to the box, a fixture-carrying support formed to receive electrical wires of the fixture so as to connect said wires to the contacts of the other member, a stud extending through the support, means to connect the stud to the rear wall of the box, means carried by the stud and engageable with the support to hold the latter in position, and means to hold the fixture-carrying support in predetermined alignment with the outlet box.

5. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to attach one of the members to the box, a fixture-carrying support formed to receive electrical wires of the fixture so as to connect said wires to the contacts of the other member, a stud extending through the support, means to connect the stud to the rear wall of the box, means carried by the stud and engageable with the support to hold the latter in position, and means to hold the fixture-carrying support in predetermined alignment with the outlet box and prevent rotative movement between said support and box.

6. In a device for connecting a fixture carrying support to an outlet box, an electrical connector having an opening there-through including contact carriers connectible and disconnectible by rectilinear movement therebetween, means to secure one of the carriers to the box, the other carrier being connectible to the electrical wires of the fixture, and means passing through the connector and fixture carrying support to secure the support in its relation to the box.

7. In a device for connecting a fixture-carrying support to an outlet box, an electrical connector including contact carriers connectible and disconnectible by rectilinear movement therebetween, means to secure one of the carriers to the box, the other carrier being connectible to the electrical wires of the fixture, and adjustable means to connect the support to the rear wall of the box.

8. In a device for connecting a fixture-carrying support to an outlet box, comprising a support, an electrical connector including contact carriers connectible and disconnectible by rectilinear movement therebetween, means to secure one of the carriers to the box, means to secure the other carrier to the support, openings formed in said carriers and means passing through the connector to connect the support to the box.

9. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to attach one of the members to the box, a fixture-carrying support formed to receive electrical wires of the fixture so as to connect said wires to the contacts of the other member, a stud extending through the support and past the connector, and threaded means on the rear wall of the box engageable with the stud so as to hold the support in position.

10. In a lighting fixture, an outlet box having a threaded post in the back thereof, a bridge plate across the front of the box carrying an electrical connector receptacle member, a bracket plate enclosing the plug member of the connector, one part of an adjustable support for the bracket passing through the latter, the plug member, receptacle member and bridge member and engaging telescopically with the other member of the adjustable support and a stud passing through said bracket and support members and engaging with means in the back of the outlet box whereby to secure the bracket and box in the fixed relation.

11. In a lighting fixture, an outlet box having a threaded post in the back thereof, bridge plate across the front of the box supporting an electrical connector receptacle member, a bracket plate enclosing the plug member of the connector, one part of an adjustable support for the bracket passing through the latter, the plug member, receptacle member and bridge member and engaging telescopically with the other member of the adjustable support and a stud passing through said bracket and support members and engaging with means in the back of the outlet box whereby to secure the bracket and box in fixed relation.

12. In a lighting fixture, an outlet box having a threaded post in the back thereof, a bridge plate across the front of the box carrying an electrical connector receptacle member, a bracket plate enclosing the plug member of the connector, one part of an adjustable support for the bracket passing through the latter, the plug member, receptacle member and bridge member and engaging telescopically with the other member of the adjustable support, a stud passing through said bracket and support members and engaging with means in the back of the outlet box whereby to secure the bracket and box in fixed relation, and means to secure the bracket in vertical alignment with the outlet box.

13. In combination with an outlet box, an electrical connector including separable contact-carrying members, means to support one of the members in the box, a fixture-carrying support formed to receive the electrical wires of the fixture so as to connect said wires to the other member, and means to secure the

said support and the outlet box in predetermined relation, said means passing through openings in the contact-carrying members and engaging with the outlet box and the fixture-carrying support.

5 14. In combination with an outlet box, an electrical connector including separable contact carrying members each provided with an opening, said openings being in registry when the members are in operative relation, means to attach one of the members to the box, means for supporting the other of said members, a fixture carrying support formed to receive the electrical wires of the fixture so as to connect said wires to the contacts of the second named member, and means passing through the contact carrying members to connect said support to the outlet box.

20 15. In combination with an outlet box, a two-part electrical connector including a stationary contact carrying member, connectable and disconnectable with a movable contact carrying member by rectilinear movement between the members, means to attach one of the members to the box, a fixture carrying support, the other of the members being connectable with the electrical wires of the fixture, means passing through both parts of the connector whereby to connect the support to the outlet box and means to hold the support in alignment with the outlet box and prevent rotative movement between said support and box.

35 16. In combination an outlet box and a fixture carrying support provided with a cavity, and electrical connector supported within said cavity and having an opening formed therethrough, said connector comprising 40 separable contact-carriers, one of said carriers adapted to have electrical connection with current supply wires and the other of said connectors having connection with the wires of the fixture and means passing 45 through the connectors for securing the outlet box and fixture carrying support in operative relation.

In testimony whereof I affix my signature.

HENRY D'OLIER, JR.

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