Jan. 19, 1932. E. J. HUEBNER 1,842,025

ELECTRICAL FIXTURE

Filed Aug. 11, 1930

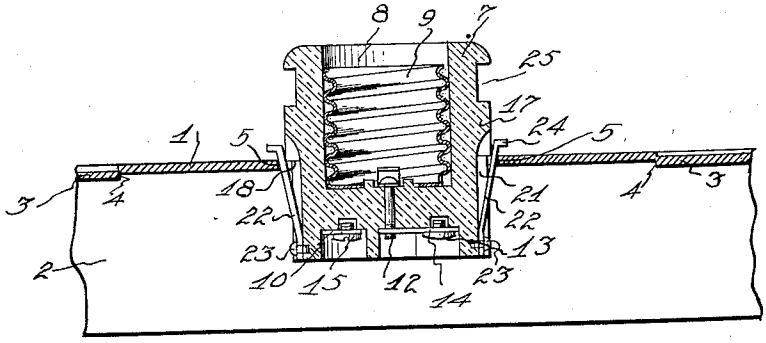


Fig. 1.

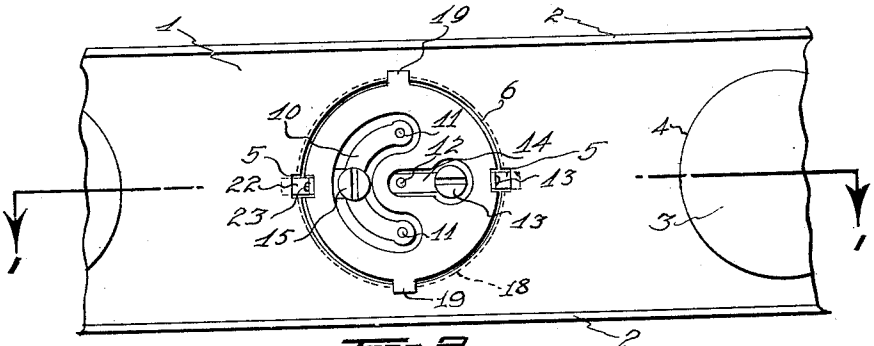


Fig. 2.

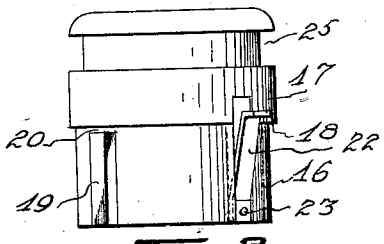


Fig. 3.

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ELECTRICAL FIXTURE

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The present invention pertains to a novel electrical fixture of the type wherein a number of lamp receptacles are supported by a knockout conduit.

A knockout conduit is used where it is desired to provide a bank of lights in a straight line, as along a display window. The conduit is preferably of channel formation and has knockout disks at the back thereof whereby any desired number of apertures may be provided for supporting the lamp receptacles. The interior of the channel constitutes an enclosure for the conductors leading to the receptacles.

Hitherto it has been customary to fix the receptacle in its aperture by means of screws passed through ears in the apertures and threaded in tapped holes formed in the conduit. Obviously, at least two holes must be drilled and tapped for each receptacle. Furthermore, inasmuch as the sheet metal forming the conduit has a thickness of only one thirty-second or three sixty-fourths of an inch, the tapped holes furnish inadequate anchorage for the receptacle, particularly when a lamp and reflector have been attached thereto and when the receptacle is strained by inserting or unscrewing the lamp.

The principal object of this invention is to overcome these difficulties by providing a construction whereby the receptacle may be more rapidly attached and detached with respect to the conduit and also more securely supported when attached. The aforementioned screws and tapped holes are replaced by a key arrangement which, when properly adjusted, firmly holds the receptacle in the conduit, in conjunction with a spring latch for maintaining the proper or permanent position of the receptacle with relation to the conduit.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a conduit and receptacle mounted and assembled according to the invention, taken on the line 1—1 of Figure 2;

Fig. 2 is a rear elevation showing the base of the receptacle and the interior of the conduit; and

Fig. 3 is a side elevation of the receptacle.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figures 1 and 2 is illustrated a so-called knockout conduit comprising a sheet metal channel member having a back 1 and side walls 2. This member is prepared for the accommodation of the desired number of receptacles by the formation of scored disks 3 of suitable diameter in the back thereof. The disks are so formed or prepared that they will readily be severed from the back of the channel at their edges 4 by a hammer blow thereon.

This practice is already well known, but the invention further contemplates the formation of one or more key notches 5 at the edge of each aperture 6 formed by the removal of a knockout disk 3.

The receptacle to be mounted in the aperture is of a special construction designed to cooperate with the aperture in the accomplishment of the object of the invention. The receptacle has a body 7 of porcelain or similar material formed with a cavity 8 in which is received the usual conducting socket member 9 formed with an internal thread to receive a lamp in the usual manner. In the base of the body member 7 is mounted a connector 10 electrically joined to the bottom of the socket member 9 by a pair of studs or screws 11. A contact member 12 extends from the base of the body 7 into the socket member, but insulated therefrom, for engagement by the usual central contact of the lamp. A binding post 13 is joined by a strip 14 to the contact 12, and a similar binding post 15 is provided in the connector 10 in the usual manner.

The lower portion 16 of the body 7 is of such size as to be conveniently received in one of the apertures 6 and to turn therein. Adjacent this portion in the direction towards the open end of the receptacle is a larger portion 17 of such diameter as to be incapable of entering the aperture 6. In

other words, the shoulder 18 between the portions 16 and 17 rests upon the back of the channel after the smaller portion has been inserted.

On the smaller portion 16 are formed one or more keys 19 equal in number to the key notches 5. The upper end of each key is spaced from the shoulder 18, as at 20, sufficiently to receive the thickness of the back 1 of the channel. Thus, the smaller portion 16 of the receptacle may be inserted in the aperture 6 by bringing the keys 19 into register with the notches 5, and the extent of insertion is limited by the shoulder 18. After full insertion, the receptacle is turned to bring the keys out of register with the notches, whereupon the receptacle is locked against longitudinal shifting by reason of the edge of the aperture 6 which now extends into the space or spaces 20.

In order to retain the receptacle against turning after it has been properly inserted, spring latch members are carried by the body 7 for cooperating with the notches 5. The wall of the smaller portion 16 is formed with a longitudinal depression 21 for each latch which consists of a spring strip 22 mounted therein and having its lower end fastened to the body 7 by a small screw 23. The upper end of each latch member is sprung outwardly and is formed with an outwardly extending finger piece 24 for engagement by the user in the manner presently to be described. Preferably, two such latches are provided on each receptacle and hence require two notches 5.

In installing a receptacle in one of the apertures 6, the smaller portion 16 is inserted while the keys 19 are received in the notches 5. As the receptacle approaches its limit in this direction, the latches 22 are pressed inwardly by engagement with the edge of the aperture but, by being accommodated in the recesses 21, do not obstruct this movement. When the shoulder 18 engages the back 1 of the supporting conduit, the receptacle is turned in either direction until the latches snap into the notches 5. Thus, the shoulder 18 and keys 19 hold the receptacle against longitudinal displacement as already described, and the entrance of the latches 22 in the notches 5 holds it against turning. When it is desired to move a receptacle, it is merely necessary to press the latches into their recesses 21 by slight pressure of the fingers on the ends 24 and then turn the receptacle until the keys 19 register with the notches 5, after which the receptacle may readily be withdrawn.

At the upper end of the receptacle is formed a peripheral groove 25 for the attachment of a shade or reflector in the usual manner. The load on the receptacle constituted by the lamp and the shade or reflector is adequately supported by the means described which also is unimpaired by the strain caused in screwing or unscrewing a lamp with respect to the receptacle.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention, as indicated by the appended claims.

What I claim is:—

1. In combination with a supporting member having an aperture and a communicating key notch, a receptacle having a portion adapted to enter said aperture, a key formed on said portion and adapted to pass through said key notch to a postion entirely at one side of said supporting member, and a spring member carried by said receptacle and adapted to enter said notch on turning said receptacle after insertion of said key, whereby to hold said receptacle against turning in said aperture.

2. In combination with a supporting member having an aperture and a communicating key notch, a receptacle having a portion adapted to enter said aperture and an adjacent portion incapable of entering said aperture, a key formed on the first portion and adapted to pass through said key notch, whereby said receptacle is locked by said adjacent portion and said key on turning said key out of register with said notch, and a spring member carried by said receptacle and adapted to enter said notch on turning said receptacle after insertion of said key, whereby to hold said receptacle against turning in said aperture.

In testimony whereof I affix my signature.

EDGAR J. HUEBNER.