

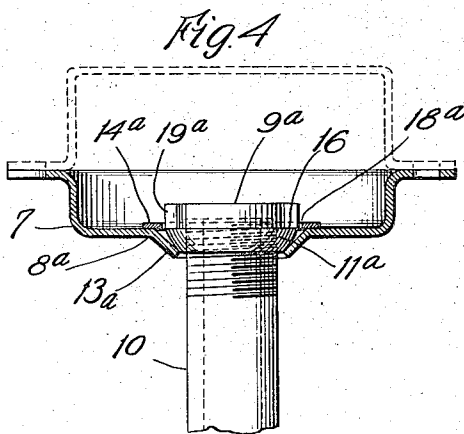
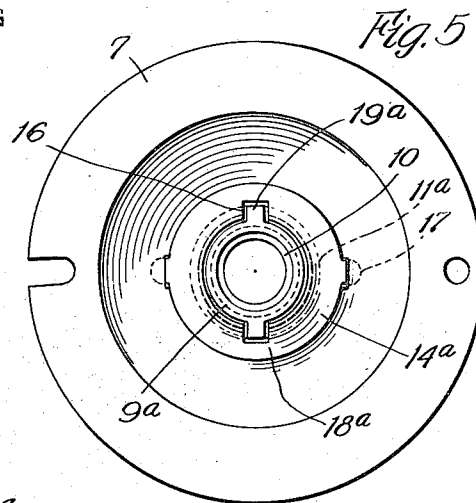
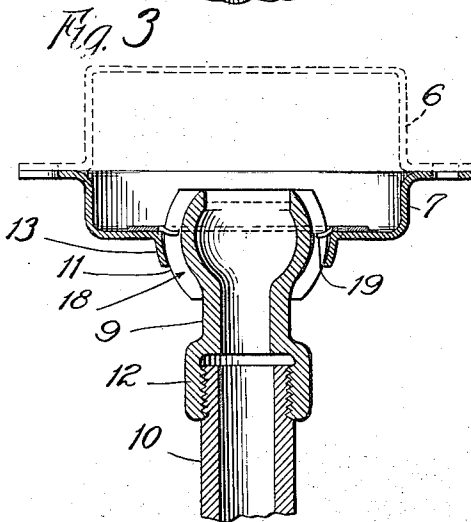
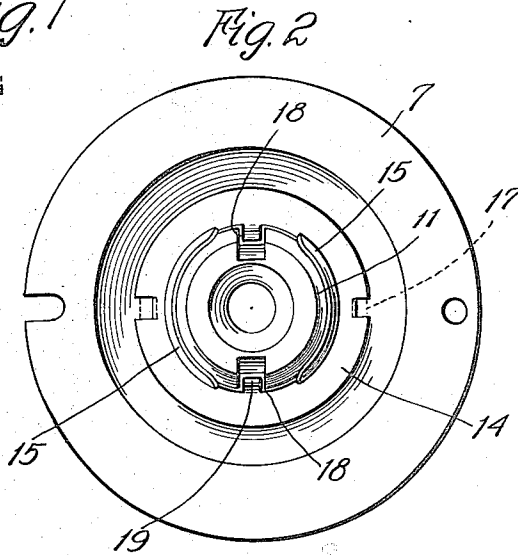
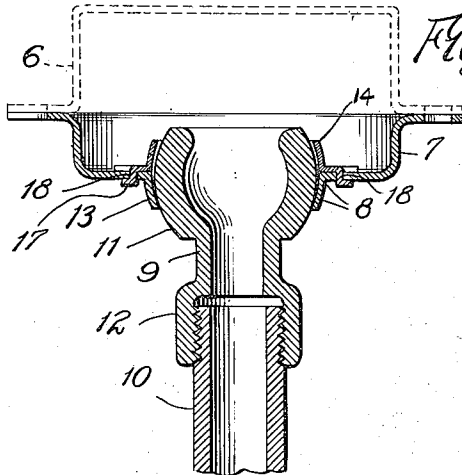
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A. RYDEN

OUTLET BOX

Filed Sept. 3, 1920



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UNITED STATES PATENT OFFICE.

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OUTLET BOX.

Application filed September 3, 1920. Serial No. 407,884.

To all whom it may concern:

Be it known that I, AXEL RYDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Outlet Boxes, of which the following is a specification.

The invention has reference in general to outlet boxes and more particularly to an improved construction by means of which inflexible pipes, conduits, or other wire carriers may be led from the box in various directions.

More specifically stated, the invention pertains to an improved connection for outlet boxes mounted in the cover of the box for universal movement so that the electric wires may be led from the box into tubular wire-carrying stems disposed at an angle with reference to the same, as in the case of fixtures supported from saw-toothed roofs, inclined ceilings, etc., the connection being capable of a wide range of movement to accommodate the fixture for use under many and varied conditions.

A further aim of the invention is to provide an outlet box and connection of the character referred to in which the construction is exceedingly simple and yet of a very practical character.

In the accompanying drawings I have illustrated two embodiments of the invention. Figure 1 is a vertical section through an outlet box and one form of connection, with a portion of a lighting or other fixture secured thereto. Fig. 2 is a plan view of the connection taken with the cover removed from the box. Fig. 3 is a view similar to Fig. 1 but taken on a plane at right angles thereto. Fig. 4 is a sectional view illustrating the other embodiment or modification of the invention, the connection and lighting fixture being shown in elevation. Fig. 5 is a view similar to Fig. 2 of the connection illustrated in Fig. 4.

By way of illustration I have shown an outlet box of usual form comprising a base portion 6 and a cover portion 7, the cover portion being adapted to be secured at its outer edges to the base portion in any preferred manner. It will, of course, be understood that any particular form of outlet box and cover may be employed without departing from the spirit and scope of the invention.

The cover 7 is adapted to carry in its cen-

tral depressed portion the connection to which is secured a tubular stem of a lighting fixture or the like. Thus, the cover is shaped to provide in the depressed portion thereof a socket element 8 (Figs. 1 to 3) or 8^a (Figs. 4 and 5 adapted to receive a tubular element or head 9 or 9^a constituting the connection with which the stem 10 of a lighting fixture or other wire conduit is made rigid. The elements 9 and 9^a permit the extension thereof of wires from the fixture. Preferably the inner ends of the bores of these elements are smoothed off to present dull edges as shown, to avoid cutting or chafing the wires.

In the embodiment of the invention illustrated in Figs. 1 to 3, the tubular element 9 is elongated in form and has at its inner end a ball member 11 for operatively engaging in the socket 8, and at its outer end a portion 12 for receiving the stem 10. The socket 8 is preferably formed by means of an out-turned flange 13 formed on the cover 7 and is completed by a ring member 14 secured upon the inner side of the cover 7, said ring member and the flange 13 being adapted to coact to retain the ball member 11 in position in the cover. The ring member 14 has opposite inwardly projecting flange or lip portions 15 shaped to conform to the outer surface of the ball member 11, which in this instance is made substantially spherical. The flange 13 is also adapted to conform to said spherical surface of the ball member 11 so that it will be apparent that the ball member 11 is capable of universal movement in the socket.

In the embodiment or modification of the invention shown in Figs. 4 and 5 the element 9^a comprises a ball or head 11^a having its outer surface rounded so as to engage with a depending flange 13^a formed on the cover 7 of the outlet box. Near its inner end said head is reduced in diameter forming a shoulder 16 which is adapted to engage a ring member 14^a secured upon the inner side of the cover 7. Into the element 9^a is inserted the end of the lighting fixture 10 or other tubular wire conduit, the latter being in threaded engagement with the element, or otherwise rigidly secured thereto.

The ring members (14 or 14^a) may be secured to the inner side of the cover 7 of the outlet box in any desired way. Preferably, however, the ring member is provided with

a plurality of tongues 17 adapted to be entered through apertures 18 in the cover 7 and bent outwardly into engagement with the outer surface of the cover whereby to secure the ring in position. It will be seen that this simple form of fastening means for the ring members renders the ring capable of easy assembly and detachment.

For the purpose of preventing relative rotation between the fixture 10 and the outlet box, I provide interengaging tongues and grooves in the two coacting elements 11 and 13 which, while permitting of the universal movement of the fixture with reference to the box is adapted to effectively maintain the parts in their proper relation.

Referring to Figs. 1 to 3, the means for preventing the rotation between the connection and the box comprises a pair of grooves 18 provided in the outer surface of the ball member 11 at diametrically opposite sides thereof in alinement with the stem of the fixture, and a pair of tongues 19 formed on the ring member 14 and protruding into the grooves 18.

On the other hand, in the construction shown in Figs. 4 and 5, notches or grooves 18^a are provided in diametrically opposite sides of the ring member 14^a and wings or tongues 19^a are provided on opposite sides of the connection element 9^a, adapted to enter the grooves 18^a. In both instances the tongues and grooves are adapted to permit of a relatively great range of universal movement between the parts, the tongues and grooves for this purpose being proportioned so as to permit of a limited degree of rotation between the two elements essential to the universal movement. The head 9 is not, however, capable of any appreciable amount of rotation in the socket. This makes it easy to remove or affix the stem of a fixture. It also avoids the likelihood of the wires which extend from the fixture being twisted and torn loose from their connections.

It will be observed that the connection which I have provided is of a construction comparatively simple, the number of parts being small and capable of being manufactured at a low cost. At the same time the device is of an efficient character, and adapted for extensive use by reason of the wide range of movement of which the fixture or other part leading from the box is capable.

I claim as my invention:

1. The combination in an outlet box, of a cover plate having a portion stamped to provide a socket on the inside of said box, a sheet metal plate adapted to be fitted over said socket on the inner side of said cover plate, one of said plates being provided with tongues stamped therefrom and the other of said plates being slotted to receive said tongues, said tongues being adapted to be bent to detachably secure the plates together, said cover plate being provided with an opening in said socket to receive the stem of a lighting fixture having connection with said outlet box, said opening being larger than said stem to permit free universal movement of said stem therein, a spherically conformed head movably mounted in said socket adapted to be secured to said stem, said head being provided with a groove extending circumferentially in the periphery thereof in line with said stem, said sheet metal plate having a lug stamped therefrom to engage in said groove to prevent rotative movement of said head and stem relative to said socket but permitting universal swinging movement thereof.

2. The combination in a connection for an electrical fixture, of a head having a central threaded portion for threading engagement with a fixture, a plate adapted to serve as a support for said fixture, said plate having a circular aperture therein and having a socket concentric with said aperture, said head having a rounded portion to set in said socket and have universal movement therein in the swinging movement of said fixture with respect to said aperture, a second plate abutting the inner face of said first plate over said socket and having an aperture registering with the aperture in said first plate, one of said plates having slots therein and the other of said plates having tongues to enter the slots and to be bent therein to secure said plates together, said second plate being arranged to prevent inward displacement of said head from said socket, and said head and plate having portions interfitting to prevent turning of said head in said socket whereby to permit the unthreading or threading of a fixture on said head.

In testimony whereof, I have hereunto set my hand.

AXEL RYDEN.