P. REINHALTER.

CONNECTOR FOR OUTLET BOXES.

APPLICATION FILED JAN. 4, 1915.

1,272,714. Patented July 16, 1918.

Fig. 1.

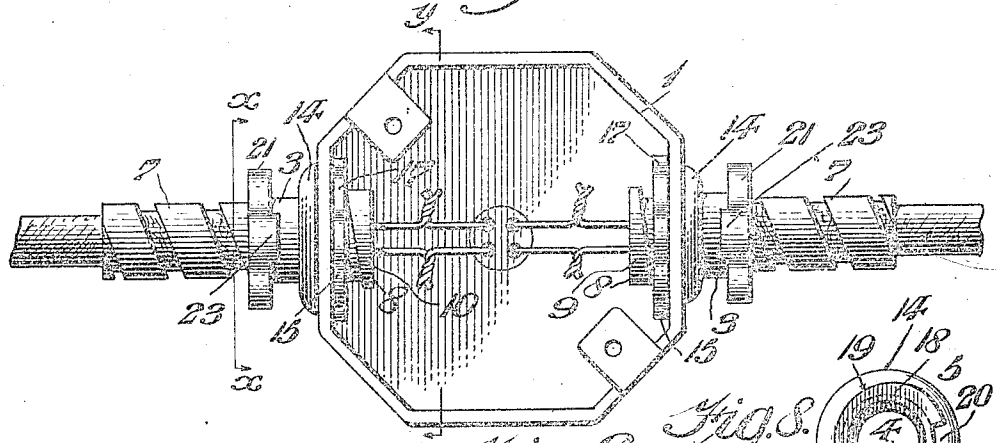


Fig. 8.

Fig. 2.

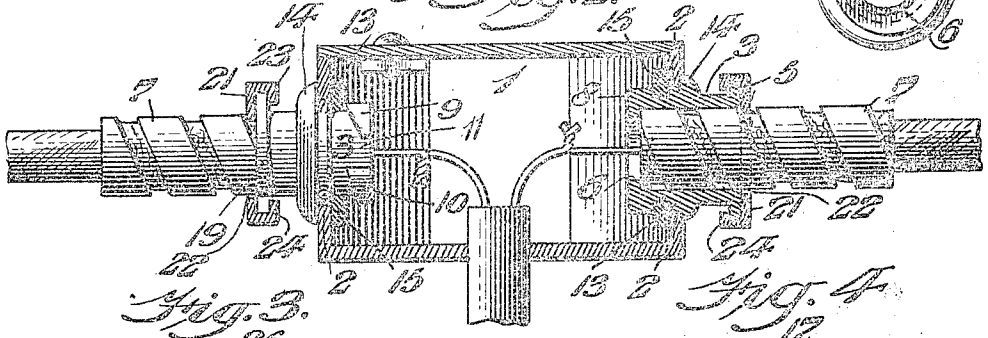


Fig. 3.

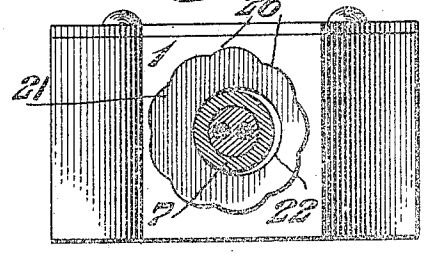


Fig. 4.

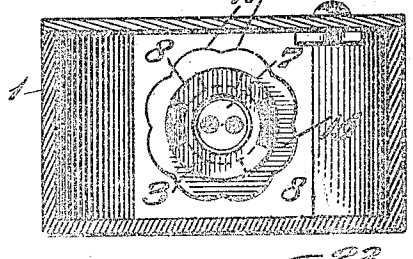


Fig. 5.



Fig. 7.

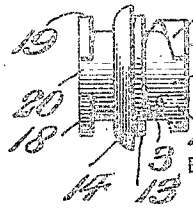
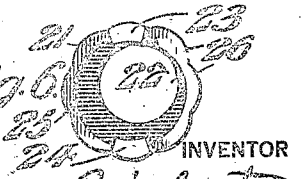


Fig. 6.



WITNESSES

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CONNECTOR FOR OUTLET-BOXES.

1,272,714. Specification of Letters Patent. Patented July 16, 1918.

Application filed January 4, 1915. Serial No. 494.

To all whom it may concern:

Be it known that I, PETER REINHALTER, a citizen of the United States, residing at Wilkes-Barre, county of Luzerne, State of Pennsylvania, have invented a new and useful Connector for Outlet-Boxes, of which the following is a specification.

My present invention relates to a connector for outlet boxes whereby the connector may be securely locked with respect to the outlet box and may be quickly assembled or taken apart when desired, without the necessity of employing any special tools.

With the above in view, my invention consists of a novel connector, comprising a body portion adapted to receive the conductor, and novel means for locking said body portion with respect to the conductor and with respect to the outlet box.

It further consists of a novel connector having the body portion thereof adapted to receive the conductor and prevent its passage therethrough, and provided with a cap detachably connected with the body portion and eccentrically mounted thereon whereby the body portion is rigidly connected with the conductor, and said body portion is also provided with an eccentric or cam portion whereby the body portion may be fixedly secured with respect to the outlet boxes.

It further consists of a novel construction of a body portion, a novel construction of a locking cap and a novel construction of a locking ring.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description of my invention.

For the purpose of illustrating my invention I have shown in the accompanying drawing one form thereof which is at present preferred by me, since the same will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a plan view of an outlet box, conductors and connectors in assembled position, the cover of the box having been removed for the sake of clearness of illustration.

Fig. 2 represents a sectional view of the parts seen in Fig. 1.

Fig. 3 represents a section on line x—x, Fig. 1.

Fig. 4 represents a section on line y—y, Fig. 1.

Fig. 5 represents a plan view of a locking ring in detached position.

Fig. 6 represents a plan view of a cap in detached position.

Fig. 7 represents a side elevation of the body portion.

Fig. 8 represents an end view of the body portion.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings—

The type of conductor and the type of outlet box employed may be of any desired or conventional construction and for convenience of illustration I have disclosed an outlet box, preferably formed of an integral piece of material forming the body portion 1, adapted to receive a cover of any desired type and provided with any desired number of apertures 2. 3 designates the body portion of a connector embodying my invention, said body portion being preferably formed of an integral piece of material and provided with an aperture 4 which is eccentric at one end, as at 5, and the other end thereof is provided with an inwardly extending flange 6, the function of which is to prevent the end of the conductor 7 extending completely through the body portion, and the end of the conductor is in close proximity to the inner end of the body portion, so that any likelihood of the wires of the conductor being short circuited through the body portion is prevented. The body portion 3 is provided at its inner end with an outwardly extending flange 8, the outer face of which is substantially flush with the inner end of the body portion and the inner face of said flange is cut away to form the cam faces 9 and 10, respectively, which terminates at the slots 11 through said flange 8. The body portion 3 is provided intermediate its ends with an annular shoulder 13 and an outwardly extending flange or abutment 14 on one side of said shoulder, said flange contacting with the outer face of the outlet box and said shoulder 13 extending through the aperture 2 in the outlet box.

15 designates a locking ring provided with

the lugs 16 which are adapted to register with the slots 11 and 12 so that the lugs of said locking ring will coöperate with the cam faces 9 and 10 and the body portion 3 of the connectors will be firmly wedged between the flange 14 and the locking ring 15. The space between the shoulder and the cam faces at the least diameter thereof is preferably such that the lugs 16 will engage the wall of the shoulder and of the cam faces at such points, so that the locking ring is not liable to become detached during shipment and the locking ring is at all times securely wedged in position and is not likely to become loosened due to vibrations or shocks to which the outlet box may be subjected.

The outer periphery of the locking ring 15 is cut away to form shoulders 17, so that such outer periphery may be readily grasped by a working tool or a screw driver, chisel or like implement, may be driven against one of the shoulders to rotate the ring to locking position.

The outer end of the body portion 3 is provided with an outwardly extending flange 18, the periphery of which is eccentric, as indicated at 19, and a slot 20 extends through the flange 18. 21 designates a cap having an eccentric aperture 22 therethrough, and the flange of said cap is provided with inwardly extending lugs 23 and 24. The inner periphery of the flange of the cap is eccentric, as indicated at 25, and such eccentric wall is adapted to ride on the outer periphery 19 of the end flange 18.

The manner in which the connector is assembled with respect to the conductor and the outlet box will now be readily apparent to those skilled in this art and is as follows:—

The cap 21 is assembled with respect to the body portion by placing one of the lugs on the cap into engagement with the inner face of the flange 18 and then moving the other lug of the cap through the slot 20 in the flange 18. The conductor 7 is then inserted through the eccentric aperture 22 and into the eccentric aperture 4 until it contacts with the inwardly extending flange 6 at the opposite end thereof. The cap 21 is then rotated so that the conductor will be locked between the eccentric portion 5 of the body portion aperture 4 and the eccentric aperture 22 of the cap, and the conductor will be rigidly connected with respect to the body portion. The inner end of the body portion 3 is then inserted through an aperture 2 in the outlet box. The locking ring 15 is then placed on the body portion 3, the lugs 16 of said locking ring passing through the slots 11 and 12. The locking ring 15 is then rotated and, as the lugs thereof are in engagement with the cam faces 9 and 10, the wall of the outlet box will be firmly clamped between the inner side wall of the locking ring and the flange 14 on the body portion.

Owing to the novel manner of placing the locking portions of the connector at each end thereof and owing to their novel construction, I am enabled to make the connector much shorter than has heretofore been deemed possible in devices of this character. As is often the case, the outlet box must be placed in a position providing but a minimum of space and many types of connectors cannot be used in such places, whereas with my connector it is but slightly longer than the width of the wall of the outlet box.

Attention is further directed to the fact that the connector may be readily assembled without the necessity of employing any special tool and the cap 21 is preferably provided with the shoulders 26, so that it may be actuated by any desired type of a working tool.

Attention is further directed to the fact that, in my present invention, I have eliminated the necessity of employing threads or screws, with consequent economy in the cost of manufacture, and I have also reduced to a minimum the number of parts employed, it being seen that I employ but three parts which may be readily formed by a casting or stamping operation.

It will now be apparent that I have devised a novel and useful construction of a connector for outlet boxes which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with an outlet box, and a conductor, of a connector having a body portion provided at its outer end with a flange having a slot therethrough, the outer periphery of said flange being eccentric and said body portion having an eccentric aperture therein, a cap having an aperture therethrough eccentric to the aperture in the body portion and provided with lugs engaging the inner wall of said flange and having an eccentric wall engaging the periphery of said flange, and means to secure said body portion to the outlet box.

2. The combination of an outlet box having an opening, a conductor, a connector having a body portion apertured to receive said conductor and having at its extreme inner end an annular, outwardly extending

slotted flange, the inner face of which is inclined to form cam faces, said flange being adapted to pass through said outlet box opening, said body portion having a second flange to engage the outer wall of said outlet box, a locking ring having means to enter the slots of said first flange and engage said cam faces on the rotation of said locking ring, whereby the wall of the outlet box is clamped between said second flange and said locking ring, and a cap rotatable on said connector to secure said conductor to it.

3. The combination with an outlet box, of a connector having a body portion having at one end an inwardly extending flange and provided with an eccentric aperture opening through the other end, said body portion having intermediate its ends an outwardly extending flange and provided at one end with an outwardly extending flange the periphery of which is eccentric, said body portion having at its opposite end a flange which is cut away at its inner side to form cam faces and to form slots, a locking member having lugs to pass through said slots and to engage said cam faces, and conductor locking means mounted upon the eccentric periphery of said outwardly extending flange.

PETER REINHALTER.

Witnesses:
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F. A. NEWTON.