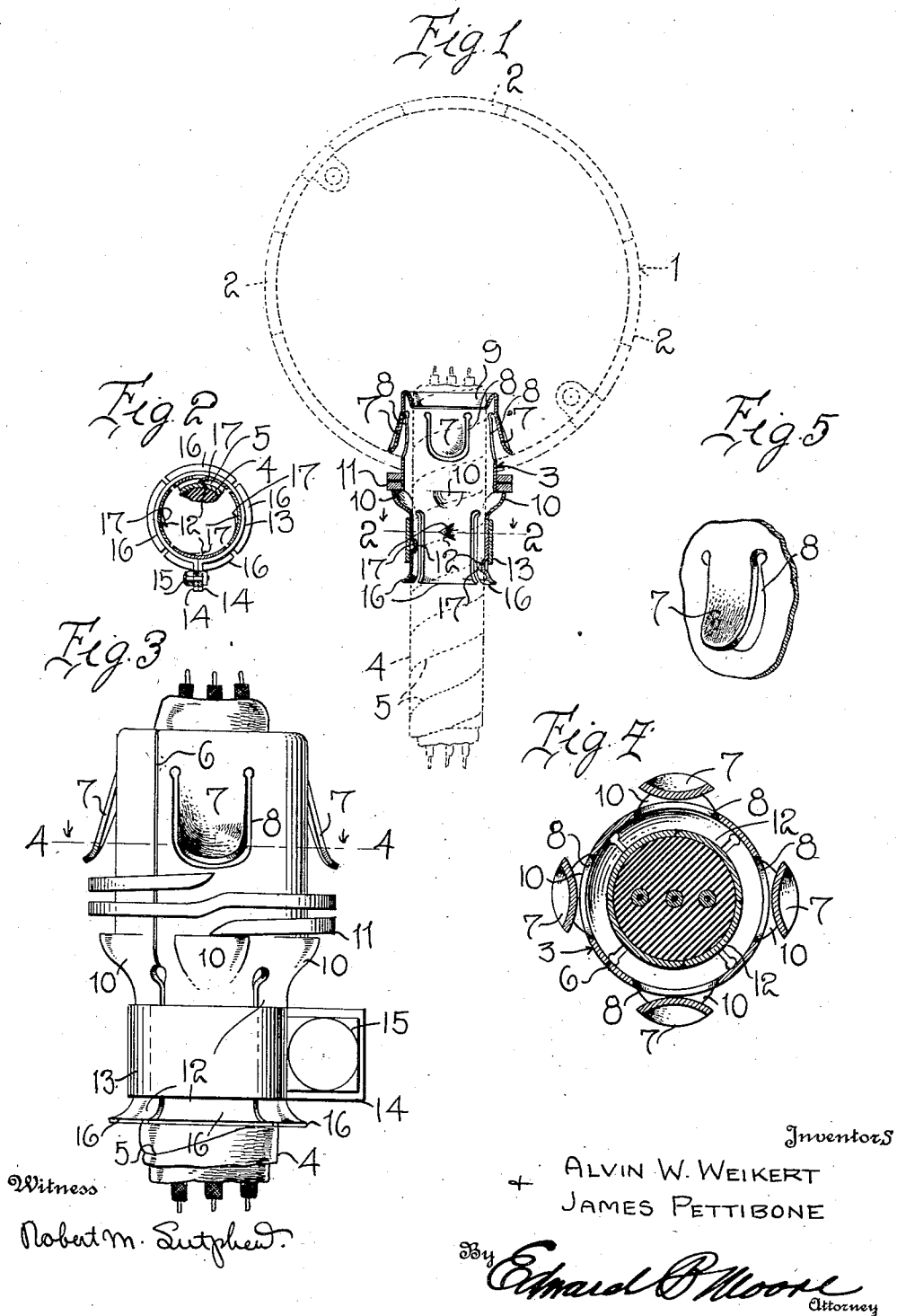


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 SELF LOCKING JUNCTION BOX COUPLING.
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1,215,595.

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UNITED STATES PATENT OFFICE.

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SELF-LOCKING JUNCTION-BOX COUPLING.

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Specification of Letters Patent.

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Application filed August 13, 1915. Serial No. 45,341.

To all whom it may concern:

Be it known that we, ALVIN W. WEIKERT and JAMES PETTIBONE, of the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Self-Locking Junction-Box Couplings; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention consists in the novel features hereinafter described, reference being had to the accompanying drawing in which we have shown one embodiment of our invention selected by us for the purposes of illustration, and the said invention is more particularly set out in the appended claims.

Referring to the drawings:

Figure 1 is a vertical sectional view, showing a circular junction box with the front end of our improved coupling thrust through the opening therein, the outwardly extending resilient gripping arms being in expanded position to lock the coupling in the box, the conduit grippers at the rear end of the coupling being locked in engagement with the conduit, and the automatically operating contact buffer spring at the central portion of the coupling being in engagement with the outer wall of the junction box.

Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1, and showing the inwardly projecting teeth of the coupling engaging the spiral threads of the conduit cover.

Fig. 3 is an enlarged plan view of our improved coupling showing the conduit attached thereto and before the coupling has been inserted in the junction box.

Fig. 4 is a horizontal section taken on line 4—4 of Fig. 3.

Fig. 5 is a detail perspective showing the configuration of one of the outwardly extending arms of our improved coupling.

The object of our invention is to provide an improved self-locking junction box coupling, particularly adapted for connecting the terminal of an electric conduit to a junction box or the like.

With the foregoing and other objects in view, the invention resides in the combination and arrangement of parts, and in the features and details of construction, herein-
after described, it being apparent to those skilled in the art that changes in the combination and details of the invention may be made within the scope of the appended claims without departing from the spirit of the invention or without sacrificing any of its advantages.

The preferred embodiment of our invention herein disclosed comprises manually operated means for securing the coupling in position on a conduit, automatically operating means for locking the coupling in a junction box, and automatically operating means for providing a contact between the conduit and the junction box, whereby any stray currents or leaks may be grounded through the said box.

The automatically operating contact means, preferably consists of a buffer spring which surrounds the central portion of the coupling and is adapted to engage the outer wall of the junction box when the forward end of the coupling is inserted in said box.

In the drawings, 1 designates the junction box, which is provided with the usual conduit openings 3, each of which is normally closed by a frictionally held disk 2 adapted to be forced out when a conduit terminal is to be inserted.

A conduit terminal 4 having spiral grooves 5 in its cover is shown, having applied to its extremity one of our improved junction box couplings, the rear or outer end of the coupling being locked in position on the coupling by means hereinafter described.

The coupling of our present invention is preferably formed from a metal blank rolled or bent into substantially the form of a longitudinally split sleeve or tube. In the drawings the longitudinal split or seam of the tubular body is indicated by the numeral 6 and the tubular body is rolled together so that this seam 6 is practically closed. In our preferred construction, the box-gripping means comprises a plurality of outwardly extending spring arms 7, which consist of spring plates cut or sepa-

rated from the forward portion of the tubular body of the coupling by means of U-shaped slots 8, the free ends of the arms 7 being directed toward the rear of the coupling and being normally sprung slightly outward at their free ends, as shown. After these arms 7 have been cut from the body of the coupling their central portions are depressed, as shown in the drawing, which leaves their edges raised. This depressing of the central portion of the arms 7 forms an important feature of our present invention and was devised for a dual purpose, viz: first to contract the edges of the arms so that they might work freely through the slots from which they were cut, and second, to reinforce the arms and prevent their bending.

The inner or forward end of the coupling is preferably turned back upon itself in the form of an annular flange 9, thus providing a continuous circular portion for evenly surrounding the conduit and preventing fraying or abrasion thereof.

Intermediate the ends of said tubular body are a plurality of outwardly punched or stamped lugs 10, which form a seat for a contact buffer spring 11, said buffer spring being adapted to automatically operate when the forward end of the coupling is inserted in a junction box, to cause a contact between the conduit 4 and the junction box 1.

The means for locking the coupling to the conduit preferably comprises a plurality of longitudinally extending grippers 12 and a band 13 surrounding the grippers for forcing them into contact with the conduit. The band 13 is preferably split and provided with outwardly extending terminals 14, to provide spring means for normally holding the terminals 14 apart. Extending through the terminals is a bolt 15, provided with a nut, by means of which the terminals 14 may be drawn together and thus force the grippers 12 tightly into engagement with the casing of the conduit 4. The ends of the grippers 12 are extending radially outward, as indicated at 16, to hold the band 13 in place, and said grippers 12 are also provided with inwardly extending punched teeth 17, which are in spiral arrangement for the purpose of engaging the threads 5 of the conduit.

The operation of our improved device is as follows: The end of the conduit which is to be carried into the junction box is fitted into the outer end of the coupling by turning the coupling, the teeth 17 screwing on the threads 5 of the conduit cover. The bolt 15 is then tightened to contract the ring 13 and lock the coupling on the conduit. The forward end of the coupling is then thrust through the desired opening in the junction box. As the arms 7 pass through the opening in the junction box,

they are forced inwardly through their respective slots 8 by reason of their peculiar configuration, and when the device is inserted the required distance, the arms 7 spring outwardly and lock the coupling firmly in the junction box. At the same time the arms 7 spring outwardly the buffer spring 11 comes into engagement with the outside surface of the box and acts to hold the coupling firmly in position, and provide a contact by which any stray currents or leaks may be grounded through the junction box.

From the foregoing it will be seen that we have provided an improved junction box coupling in which only one operation is necessary for properly attaching the same to a junction box, namely, the insertion of the coupling in the box, the locking and current grounding means being automatic.

What we claim and desire to secure by Letters Patent is:

1. A junction box coupling comprising a metallic sleeve provided near its forward end with integral outwardly extending yieldable spring arms adapted to be pressed inwardly by the wall of the opening in a junction box when the forward end of the sleeve is inserted in the box and automatically move outwardly after the arms are entirely within the box for locking the sleeve to said box, automatically operating means provided near the rear end of said sleeve for engaging the outer surface of the box and drawing the ends of the arms into contact with the inner surface of the box, and means for locking the sleeve to a conduit.

2. A junction box coupling carrying outwardly extending yieldable spring arms for engaging the inner surface of a wall of the junction box, said spring arms having their central portions cupped, means for engaging the outer surface of said wall, and means for gripping a conduit.

3. A junction box coupling carrying outwardly extending yieldable spring arms for engaging the inner surface of a wall of the junction box, said arms having their central portions cupped, automatically operating means for engaging the outer surface of said wall, and means for gripping a conduit.

4. A junction box coupling carrying inwardly yieldable spring arms for engaging the inner surface of a wall of the junction box, said spring arms having their central portions cupped, a buffer spring for automatically engaging the outer surface of said wall, and means for gripping the conduit.

5. A junction box coupling comprising a tubular member provided at its forward end with outwardly extending yieldable spring arms for engaging the inner surface of a wall of the junction box, said arms having

their central portions cupped, outwardly extending lugs provided on said tubular member intermediate its ends, a buffer spring provided on said tubular member between
5 said lugs and the free ends of said arms, spirally arranged inwardly projecting teeth also provided on said tubular member adapted to engage the threads of a conduit

cover, and means for forcing said teeth inwardly, whereby said conduit is firmly 10 gripped.

In testimony whereof, we have signed this specification.

ALVIN W. WEIKERT.
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