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D. E. CAMPBELL
ELECTRICAL BOX CONNECTOR

2,927,807

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Fig. 1

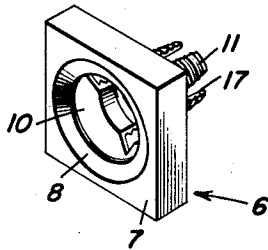


Fig. 2

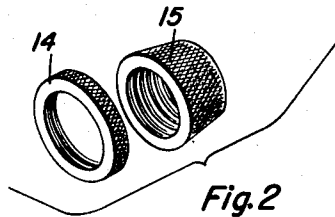


Fig. 4

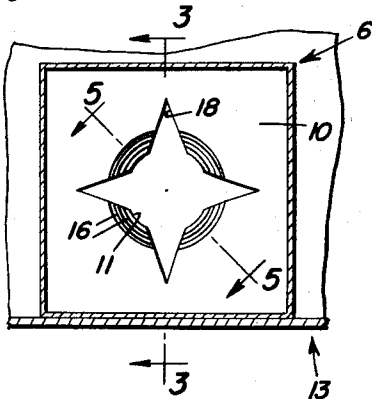


Fig. 3

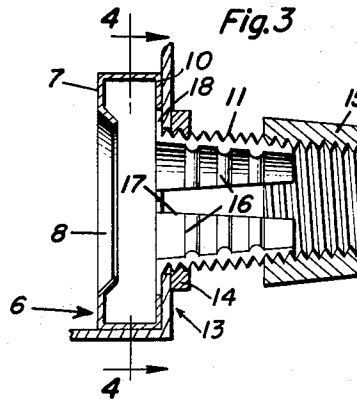
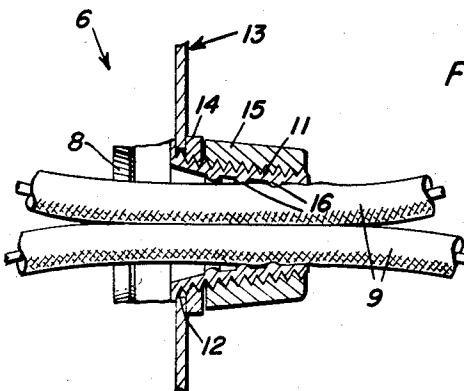


Fig. 5



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2,927,807

ELECTRICAL BOX CONNECTOR

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1 Claim. (Cl. 285—128)

The present invention relates to new and useful improvements in electrical box connectors and has for its primary object to provide, in a manner as hereinafter set forth, novel means whereby conductor wires may be expeditiously and firmly secured in conventional switch or other boxes with a minimum of labor and which, further, will ensure a neat, attractive job when completed.

Other objects of the invention are to provide an electrical box connector of the aforementioned character which will be comparatively simple in construction, strong, durable, compact and which may be manufactured at low cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of an electrical box connector constructed in accordance with the present invention;

Figure 2 is a detail view in perspective of the box retaining and wire clamping elements;

Figure 3 is an enlarged view in vertical longitudinal section, taken substantially on the line 3—3 of Figure 4;

Figure 4 is a cross-sectional view, taken substantially on the line 4—4 of Figure 3; and

Figure 5 is an enlarged fragmentary view in longitudinal section, taken substantially on the line 5—5 of Figure 4, showing a pair of conductor wires secured in the device.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a flat, square hollow metallic head 6 of suitable dimensions. The front wall 7 of the head 6 comprises an intumed, centrally located, substantially frusto-conical flange defining a circular opening 8 for the passage of the conductor wires, as indicated at 9.

Formed integrally with the rear of back wall 10 of the hollow head 6 is a tapered, longitudinally split, externally threaded tube or shank 11 which is insertable through one of the usual knock-out openings 12 in a conventional box 13. A knurled retaining ring 14 is threaded on the tubular shank 11 for engagement with the exterior of the box 13. Also threaded on the tubular shank 11 is a tapered or substantially frusto-conical nut 15 for contracting and clamping said shank on the conductor wires 9. The tubular shank 11 has formed therein circumferential ribs or teeth 16 which are adapted to be embedded in the conductors 9.

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It is thought that the use of the connector will be readily apparent from a consideration of the foregoing. Briefly, the tubular shank 11 is inserted through the opening 12 from the inside of the box 13, the head 6 abutting the wall of said box around said opening. The ring 14 and the nut 15 are slipped on the conductor wires 9 and said conductor wires are inserted through the tubular shank 11 and the hollow head 6, emerging from the latter into the box through the circular opening 8. The retaining ring 14 is then threaded on the tubular shank 11 and engaged with the box 13 for firmly securing the connector in said box in an obvious manner. The tapered nut 15 is then threaded on the tubular, correspondingly shaped shank 11 for contracting same and clamping the conductor wires 9 therein. The square head 6 is engageable with the box for positively preventing turning of the connector when the elements 14 and 15 are screwed thereon. The longitudinal slots 17 in the tubular shank 11 extend therefrom into the back wall 10 of the box 6, as indicated at 18.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

30 An electrical box connector of the character described comprising: a substantially square, hollow head insertable in the box, one side of said head being adapted to engage the wall of said box to prevent turning, said head including a back wall engageable with the box and further including a front wall spaced from said back wall and comprising an intumed, frusto-conical flange defining a circular opening for the passage of conductor wires, an externally threaded, longitudinally tapered and split tubular shank integral with said back wall and insertable through a knock-out opening in the box for the reception of the conductor wires and being aligned with the first named opening, a retaining ring for the shank threaded thereon and engageable with the box, and a tapered nut threaded on the shank for contracting and clamping same on the wires, said shank including internal circumferential anchoring ribs engageable with the wires, said shank having longitudinal slots therein extending therefrom into said back wall of said head.

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