

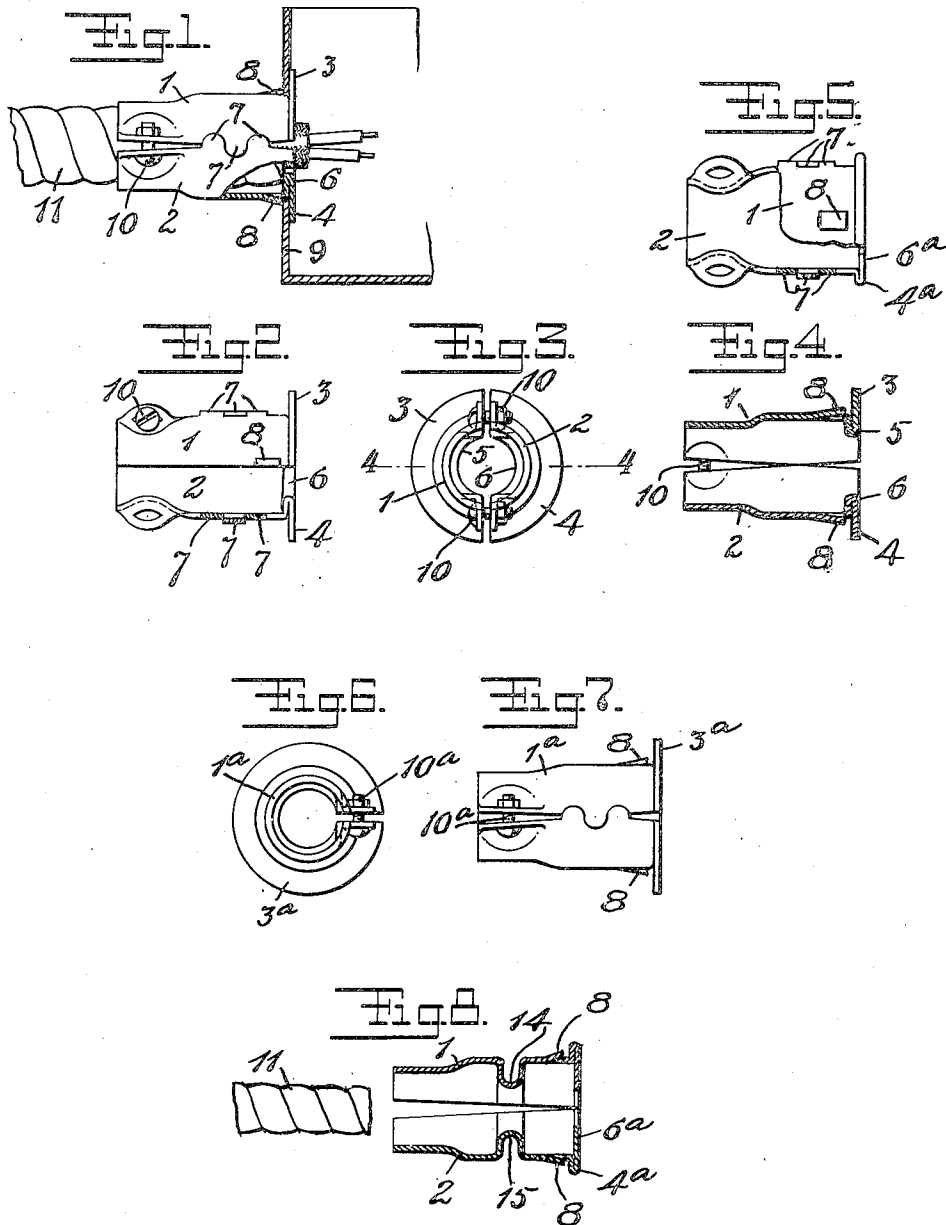
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CABLE AND BOX CONNECTER

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UNITED STATES PATENT OFFICE.

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A CORPORATION OF CONNECTICUT.

CABLE AND BOX CONNECTER.

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To all whom it may concern:

Be it known that I, JOSEPH A. VOLK, JR., a citizen of the United States of America, residing at the city of New York, county and State of New York, have invented a new and useful Cable and Box Connector, of which the following is a specification.

My invention relates to a new and improved connector for connecting armored electric cables with receptacles and boxes. Broadly speaking, the construction aims to lock on to the cable and on to the box, said locking action being effected by the mere act of assembly.

In the drawings:

Fig. 1 is a side elevation, partly in section, of my invention in place.

Fig. 2 is a plan view of the connector shown in Fig. 1, said view being partly in section.

Fig. 3 is a rear end elevation of the parts shown in Figs. 1 and 2.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is a plan view of a modification partly broken away and in section.

Fig. 6 is a rear end elevation of another modification.

Fig. 7 is a side view of a modification shown in Fig. 6.

Fig. 8 is a longitudinal section of another modification.

I have shown my invention in various preferred forms, which I will now proceed to describe.

In the form shown in Figs. 1 to 4, the connector comprises two channel shaped pieces 1—2, each of said pieces having an outwardly directed flange at one end as indicated at 3, 4 respectively. Each of said pieces also preferably has an inwardly directed flange shown respectively at 5, 6 to form internal abutments. The pieces are so constructed as to partake of a rocking action, for example, the adjacent edges of each of the pieces may be shaped as indicated in Fig. 4 so that they will rock on each other, and the edges may likewise be provided with overlapping, interlocking, alternating lugs 7—7 shown in Fig. 1, which operate to keep the pieces 1—2 in alignment when placed together. 8—8 are external abutment shoulders preferably formed by striking out the metal so that said shoulders will have a yielding or snap

action. The ends of these shoulders are spaced away from the rear side of the flanges 3—4 approximately the thickness of the metal of the box wall 9 with which the connector is to be associated. 10—10 are clamping screws or bolts which are provided to draw the rear ends of the sections 1—2 toward each other. 11 represents a piece of armored electric cable.

In operation, the two parts 1—2 of the connector are placed together and slipped through the usual opening in the wall 9, the smaller or contracting end being so shaped or proportioned that it may be passed freely therethrough. The two pieces are then pushed bodily into the position shown in Fig. 1. The larger end of the connector is designed to nearly fill the opening in the wall 9 before said end is expanded. In pressing the connector into its home position, the edge of the opening in which the connector stands will line up with the space in front of the cocking shoulders 8—8. The armored cable is then pushed into place in the rear end of the connector. The clamping screws 10—10 are then applied, and the rear ends of the connector sections are clamped down on the cable. This movement results in not only gripping the cable tightly in place, but it tilts the two sections 1—2 in such a manner as to cause the outer end to expand and fit tightly in the passage in the wall 9. By this simple expedient, effective connections may be quickly and easily made.

It will be evident that the yielding character of my device, due to the fact that it is made of sheet metal, will permit any given size of the device to be used with and to be clamped securely upon cables of various diameters in spite of the fact that the hole in which the other end of the device is expanded remains the same.

In the modifications shown in Fig. 5 of the drawing, the main difference over the construction shown in Fig. 1 is in the formation of the abutment and flange at the outer end of the connector. In Fig. 1, the abutment 6 is formed by making an inward fold in the metal, while the flange 4 is formed by extending outwardly one of these folds. In Fig. 5 the fold is made on the outside and forms the flange 4^a, while the extreme edge projecting from the fold extends inwardly to form the abutment 6^a.

In other words, it shows that because the device is made of sheet metal, the outer end of each section may be folded inwardly or outwardly as preferred.

5 In the modification shown in Figs. 6 and 7, instead of making the connector of two separate channeled pieces, I construct it of practically one piece 7^a slitted on one side, but otherwise operating substantially as shown in Fig. 1. In this instance the edges
10 of the slitted side are so shaped that a single clamping bolt 10^a will cause the outer end to expand and the inner end to contract and engage the cable.

15 In the modification shown in Fig. 8, I so construct the device that the cable itself acts as the fulcrum on which the connector pieces 1—2 tilt. In this modification these sections are each provided with inwardly
20 directed bearings 14—15 respectively, which may be formed by transversely corrugating the metal. These bearings 14—15 are arranged intermediate the ends of the sections 1 and 2, and are so proportioned as to take
25 a bearing on the surface of the armored cable 11 in such a manner that they will tilt thereon. These connector pieces may otherwise be substantially the same as the other forms herein described with the result that when the rear end of the sections
30 1—2 are drawn down the outer ends will be

expanded to tightly engage the box. In this case an additional clamping action may be had on the cable by reason of the engagement of the portions 14—15 therewith. 35

The indented portions forming the bearings 14, 15 tend to grip into the grooves in the cable covering when the screws are tightened down. The particular form and location of these gripping indentations may
40 be modified at will, so far as concerns the gripping function solely. When, however, they are to act as fulcrums upon which the sections are to tilt, they would naturally be located substantially as shown in Fig. 8. 45

I claim:

A connector adapted to operatively connect an electrical cable to a box, said connector comprising opposed channel-shaped members fulcrumed intermediate their ends
50 to have a relative rocking motion in opposite directions, said members at one end being adapted to engage by expansion the periphery of a hole in said box, and means for clamping together said members at the
55 other end upon an electrical cable, said members being made of sheet metal permitting them to be clamped together upon said cable in spite of the fact that the hole in the box prevents their opposite ends from
60 being further expanded.

JOSEPH A. VOLK, JR.