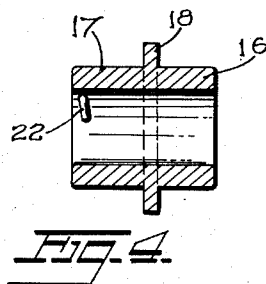
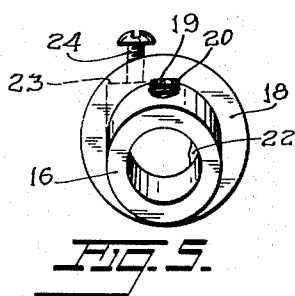
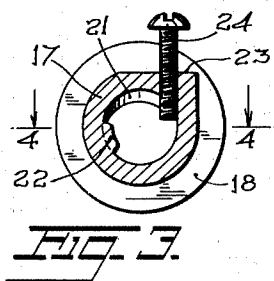
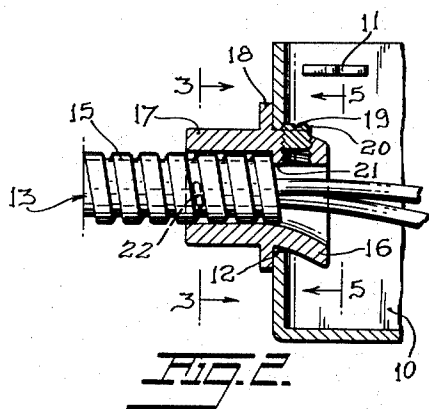
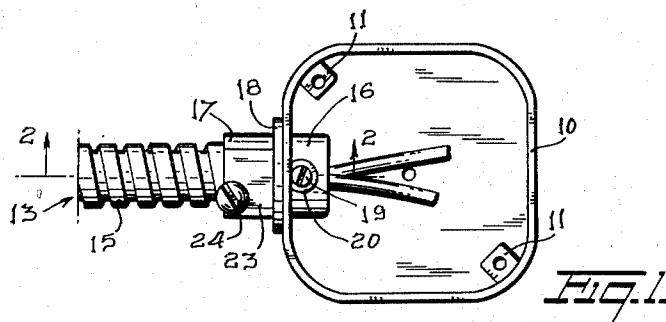


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R. STROM
BX CABLE CONNECTOR
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BX CABLE CONNECTOR

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4-Claims. (Cl. 285-6:5)

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This invention relates to new and useful improvements in cable connectors.

More specifically, the present invention relates to new and useful improvements in a connector for connecting a cable, such as a BX-type armored cable, to an electrical outlet or terminal box in electrical installations in homes, offices and other building structures.

A further object of the present invention is the provision of a novel connector for insertion in the usual knockout holes of an electrical outlet or terminal box in a manner to have the usual BX-type cable pass through the connector into the box.

Still another object of the present invention proposes providing the connector with an inner offset sleeve portion arranged in a manner to require a slight rotary movement in order to extend the inner sleeve portion through the hole of the outlet or terminal box.

Another object of this invention proposes the provision of a set screw on the inner offset sleeve portion having a beveled outer end arranged in a manner so that the screw may be turned out to engage the material of the outlet or terminal box surrounding the hole through which the connector is inserted to secure the connector in position.

A further object of the present invention proposes constructing the connector to include an outer sleeve portion separated from the inner sleeve portion by a flange arranged in a manner to seat against the outer face of the material of the outlet or terminal box surrounding the hole.

Still another object of the present invention proposes providing the outer sleeve portion with means for anchoring the end of a BX-type cable in position within the connector.

It is another object of the present invention to provide the interior of the connector with a stop member arranged in a manner to limit insertion of the end of the BX-type connector into the connector.

It is still a further object of the present invention to construct a cable connector which is simple and durable and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a plan view of an electrical outlet or terminal box having its top cover removed and having a BX-type cable connected thereto

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by means of a cable connector constructed in accordance with the present invention.

Fig. 2 is an enlarged partial vertical sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a vertical sectional view of the connector per se taken on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is an end elevational view of the connector per se looking in the direction of the line 5—5 of Fig. 2.

The cable connector, in accordance with the present invention, is arranged to be used in connection with an electrical outlet or terminal box 10 of the type which normally has its open top closed by a cover, not shown on the drawings. The inside of the box 10 is provided with the usual lugs 11 against which the cover is adapted to be rested and which are provided with the usual screw threaded openings for receiving the screws which secure the cover in position.

Such outlet or terminal boxes 10 are usually formed with one or more holes 12 normally closed by knock-out discs, not shown, which are adapted to be knocked out to permit the insertion of the end of a BX-type armored cable 13. That type of cable is generally known to those skilled in the art and includes a metallic cover 14 convolutely wound forming a spiral groove 15 about the length of the cable.

The cable connector is characterized by an inner sleeve portion 16 and an outer sleeve portion 17 separated from the inner sleeve portion 16 by a circular flange 18. As shown in Figs. 2 and 4, the sleeve portions 16 and 17 and the circular flange 18 are integrally formed.

Referring to Fig. 2 of the drawings, it will be noted that the face of the flange 18 adjacent the inner sleeve portion 16 abuts the outside face of the outlet or terminal box 10 about the hole 12. It will be further noted that the inner sleeve portion 16 is offset slightly downwards so that the inner sleeve portion 16 must be passed into the hole 12 with a rocking or turning movement after first engaging the material of the outlet or terminal box at the bottom of the hole 12 into the junction of the inner sleeve portion 16 with the flange 18.

The top side of the inner sleeve portion 16 is provided with a set screw 19 having a beveled top edge 20. The set screw 19 is so located that when it is turned in a direction to move upwards relative to the inner sleeve portion 16 its beveled top edge 20 will ride across the edge of the material of the outlet or terminal box 10 at the top of the hole 12. This movement of the beveled top edge 20 on the material of the outlet or terminal box at the top of the hole 12 will draw in slightly on the connector and cause the flange 18

to be drawn into tight facial contact with the side of the box 10 and simultaneously push downwards slightly on the inner sleeve portion 16 and cause the junction of the bottom of the inner sleeve portion 16 with the bottom of the flange 18 to be securely seated against the material of the outlet or terminal box 10 at the bottom of the hole 12, securely locking the cable connector in position within the hole 12. To release the cable connector for removal from the hole 12 it is merely necessary to turn the set screw 19 downward in a direction to disengage the beveled top edge 20 of the set screw 19 from the material of the outlet or terminal box 10 at the top of the hole 12.

The end of the cable 13 is to be inserted into the connector from the outer end of the outer sleeve portion 17 and means is provided within the inner sleeve portion 16 to prevent the cable from being passed entirely through the connector. This means comprises a small stop member 21 formed within the inner sleeve portion 16 and which depends from the top wall thereof and against which the inner end of the cable 13 is adapted to abut, as shown in Fig. 2.

Means is provided on the outer sleeve portion 17 for anchoring the end of the BX-type cable in position within the cable connector. The anchoring means comprises a small rib 22 formed with the outer sleeve portion 17 adjacent the bottom thereof. This rib 22 is angularly disposed, as shown in Fig. 4, corresponding to the angular disposition of the spiral groove 15 of the cable 13 and is arranged to engage the spiral groove 15 between adjacent convolutions of the metallic cover 14 of the cable 13. Also, the outside of the outer sleeve portion 17 on the side diametrically opposite the rib 22 is formed with a projecting boss 23. An anchor bolt 24 is obliquely threadedly passed through the boss 23 and is adapted to be tightened against the side of the cable 13 urging it toward the rib 22, so as to cooperate with the rib 22 for securely anchoring the end of the cable 13 in position within the cable connector.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A connector for anchoring the end of a BX-type cable in position within the hole of an electrical outlet or terminal box, comprising an inner sleeve portion and an outer sleeve portion separated by an intermediate flange for engaging the material of the box surrounding its hole when the inner sleeve portion is inserted into the hole, said inner sleeve portion being offset downwardly to be inserted into the hole with a turning motion, means at the top of the inner sleeve portion for engaging the material of the box at the top of the hole to secure the inner sleeve portion in position, and means on the outer sleeve portion for anchoring the end of the cable in position within the sleeves, said first-mentioned means comprises a set screw having a beveled top end which is to be tightened against the material of the box at the top of the hole.

2. A connector for anchoring the end of a BX-type cable in position within the hole of an elec-

trical outlet or terminal box, comprising an inner sleeve portion and an outer sleeve portion separated by an intermediate flange for engaging the material of the box surrounding its hole when the inner sleeve portion is inserted into the hole, said inner sleeve portion being offset downwardly to be inserted into the hole with a turning motion, means at the top of the inner sleeve portion for engaging the material of the box at the top of the hole to secure the inner sleeve portion in position, and means on the outer sleeve portion for anchoring the end of the cable in position within the sleeves, said cable anchoring means comprises an anchor bolt screw threaded through one side of said outer sleeve portion, and a rib formed within said outer sleeve portion on the side opposite said bolt to engage in the spiral groove of the cable when the bolt is tightened against the cable.

3. A connector for anchoring the end of a BX-type cable in position within the hole of an electrical outlet or terminal box, comprising an inner sleeve portion and an outer sleeve portion separated by an intermediate flange for engaging the material of the box surrounding its hole when the inner sleeve portion is inserted into the hole from the outside of the box, said inner sleeve portion being offset downwardly to be inserted into the hole with a turning motion, a set screw threaded into said inner sleeve portion diametrically opposite its downwardly offset portion to be tightened against the adjacent material of the box defining the hole, an anchor bolt screw threaded through one side of said outer sleeve portion, and a rib formed within said outer sleeve portion on the side opposite said bolt to engage in the spiral groove of the cable when the bolt is tightened against the cable anchoring the cable in position within the outer sleeve portion.

4. A connector for anchoring the end of a BX-type cable in position within the hole of an electrical outlet or terminal box, comprising an inner sleeve portion and an outer sleeve portion separated by an intermediate flange for engaging the material of the box surrounding its hole when the inner sleeve portion is inserted into the hole from the outside of the box, said inner sleeve portion being offset downwardly to be inserted into the hole with a turning motion, a set screw threaded into said inner sleeve portion diametrically opposite its downwardly offset portion to be tightened against the adjacent material of the box defining the hole, an anchor bolt screw threaded through one side of said outer sleeve portion, and a rib formed within said outer sleeve portion on the side opposite said bolt to engage in the spiral groove of the cable when the bolt is tightened against the cable anchoring the cable in position within the outer sleeve portion, said set screw having a beveled top end for riding over the material of the box defining the hole to simultaneously push downward on said inner sleeve and pull inward thereon to draw said flange into tight facial contact with the material of the box surrounding said opening.

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