To all whom it may concern:

Be it known that I, HARRY T. MARTIN, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Connecting Members for Electrical Conductors; and I do hereby declare that the following is a full, clear, and exact description thereof.

The present invention relates to new and useful improvements in means for connecting electric wires or other conducting members in a manner which insures a proper conducting contact.

It is primarily the object of the present invention to provide a means for connecting conducting members which upon application thereto serves to securely hold said members together and which coincident to its application engages said members in a manner which ensures a proper conducting contact without the necessity of providing solder or of crimping or resorting to other usual means for insuring such contact.

More particularly with respect to insulated wires, it is an object to provide a connecting member which is engageable with the wire, for securing and conducting contact, between said wire and its insulation, whereby the insulation is retained in its approximate normal position for insulating that portion of the connecting member which engages therein.

The essential feature of the present invention resides in the provision of a connecting member recessed to receive a conducting member and of harder material than said conducting member and provided with screw or other threads in its recess, whereby upon insertion of the connecting member in the recess said threads will cut thereinto to insure proper electrical contact and to hold the conducting member against withdrawal, it being appreciated that the connecting member may be utilized in various embodiments for connecting two or more wires together, or for connecting a wire to a binding post ear.

Certain embodiments of my invention are shown in the accompanying drawings, wherein:

Figure 1 is a view partly in section showing my invention applied to a member connecting two insulated electric wires and including a central insulating block.

Fig. 1 is a view of the end portion of wires to be connected by the present device.

Fig. 2 is a view partly in section showing my invention applied to a member connecting three electric wires.

Fig. 3 is a view showing my invention associated with a binding post ear for attachment of a wire thereto.

Fig. 4 is a view similar to Fig. 1 showing a member for connecting two wires, but eliminating the central insulating block.

Fig. 5 is a view showing the embodiment of Fig. 1 associated with a conducting cable.

Referring now more particularly to the accompanying drawings, the embodiment of my invention shown in Fig. 1, for connecting a pair of electric wires 5 covered by the usual insulation 6, comprises an elongated body 7 of brass or other highly conductive material harder in nature than the wires with which it is associated. The ends of the body are provided with longitudinal threaded recesses 8 adapted to receive the ends of the wires, and the sleeve ends of the body thus formed are taperingly reduced whereby to engage between the insulation and wire, to strip said insulation from the wire upon movement of the wire into the recesses, the insulation being however retained in its approximate position and disposed about the body 5 to insulate that portion thereof which engages therein. To insulate the intermediate portion of the connecting member 7, and at the same time to provide a grip means whereby it may be readily manipulated to engage the wires in its recesses, said intermediate portion is inserted in a block 9 of hard rubber or other similar insulating material, and is secured by a pin 10 passed through said member and block and having its ends sunk within the block to provide insulation thereof, although it will be appreciated that the member and block may be secured together in any desired manner, as by molding the block on the member, which in this instance would be suitably roughened on its surface.

In attaching the connecting member to the wire ends, said wire ends, as shown in Fig. 10 would be merely cut transversely, together with their insulation, and the connecting member would be inserted between
the wire ends and insulation, and rotated to cut threads in the wire ends, the connecting member engaging and spreading the insulation as the wire ends move into said member.

In Fig. 1 the recesses 8 of the connecting member are provided with right and left hand screw threads, whereby the wire ends are simultaneously fed thereinto, although it will be appreciated that any nature of threads may be provided, and that the wires may be separately secured to the connecting member if desired. In the final assembled position of the wires and member, the ends of the insulation thereof abut the block 9 and are preferably compressed thereagainst to form a complete insulated shield for the connection.

In Fig. 4 the central manipulating block 9 is eliminated, to procure a connection of minimum diameter, and in this instance the insulation of the wire ends would be slightly spread to entirely cover the connecting member.

Fig. 2 shows a form of my invention adapted for connecting more than two wires, and in this construction the connecting member, designated at 7a is provided with a series of radial arms 11 corresponding to the number of wires to be connected and these arms are tapered and provided with longitudinal threaded sockets to engage the wire ends as described in connection with the structure of Fig. 1. To procure a complete insulation of this structure, a block 12 of hard rubber or like material is molded on the connecting member and is provided with faces disposed transversely of the arms to abutingly engage the ends of the insulation of the wires.

Referring now to Fig. 3, my invention is there shown associated with a binding post lug 13 and to this lug is preferably integrally attached a recessed tapered arm 14 having its recess threaded to engage a wire end in the usual manner. For shielding the end of the insulation 6 of the wire, a cap member 15 is fitted over said end and the arm 14 is passed through said cap member whereby upon engagement of the arm with the wire 5, said cap is held between the end of the insulation and a shoulder formed at the junction of the arm 14 with the lug.

In Fig. 5 is shown a form of my invention adapted more particularly for use in connection with conducting members 8 formed of a plurality of relatively fine woven wire strands, and this structure is similar to Fig. 1, including the body 7a and the manipulating block 9a, with the exception that the recesses 8a of the body are provided with threads particularly adapted for association with the woven strand conductor 5a by reason of being considerably coarser.

Inasmuch as the essential feature of my invention resides in the provision of a connecting member recessed to receive a conducting member and of harder material than said conducting member and provided with screws or other threads in its recess to cut 70 into the conducting member upon its insertion in the recess, it is obvious that the structures herein shown and other structures embodying the same general features to meet differing conditions of use, lie well within the spirit of my invention, which is limited only by the scope of the appended claims.

What is claimed is:
1. A connecting member for an insulated electrical conductor comprising a body of harder material than said conductor and including a tapered sleeve portion adapted to engage between the conductor and insulation, and threads on the interior of said sleeve portion adapted to cut threads in the conductor upon its insertion therein.

2. A connecting member for insulated electrical conductors comprising an elongated body of harder material than said conductor and recessed in its ends to provide sleeve portions adapted to receive the conductor, threads in said sleeve portions for cutting threads in the conductor upon its insertion therein, and an insulating block on the body adapted to abut the insulation of said conductors.

3. A connecting member for insulated electrical conductors comprising an elongated body recessed in its opposite ends to provide sleeve portions to engage between 100 conductors and the insulation thereof, means in the sleeve portions for holding the conductors therein, and an insulating block on the body mid-way its ends adapted to have the ends of the insulation of the conductors 105 abut thereagainst.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

HARRY T. MARTIN.

Witnesses:
Geo. W. Young,
M. E. Downey.