

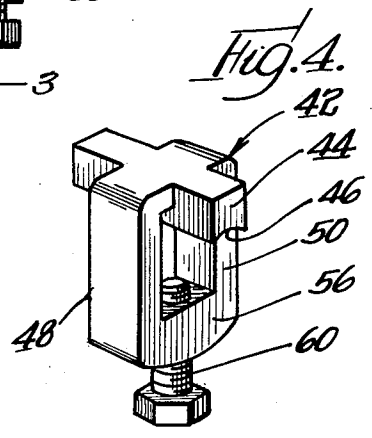
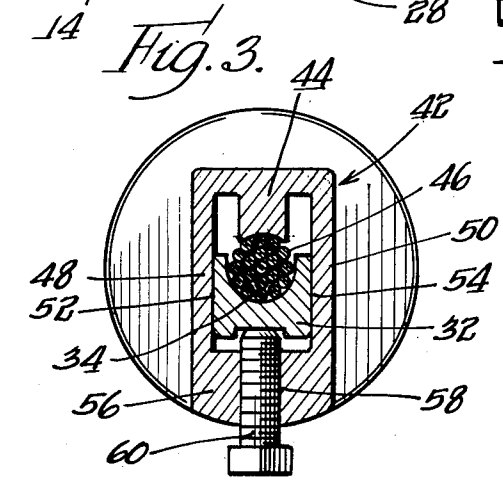
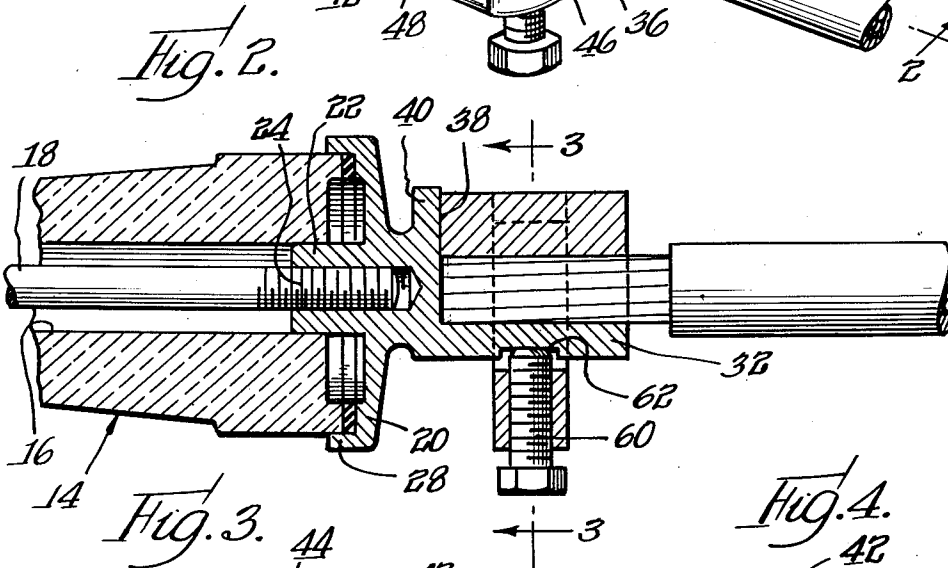
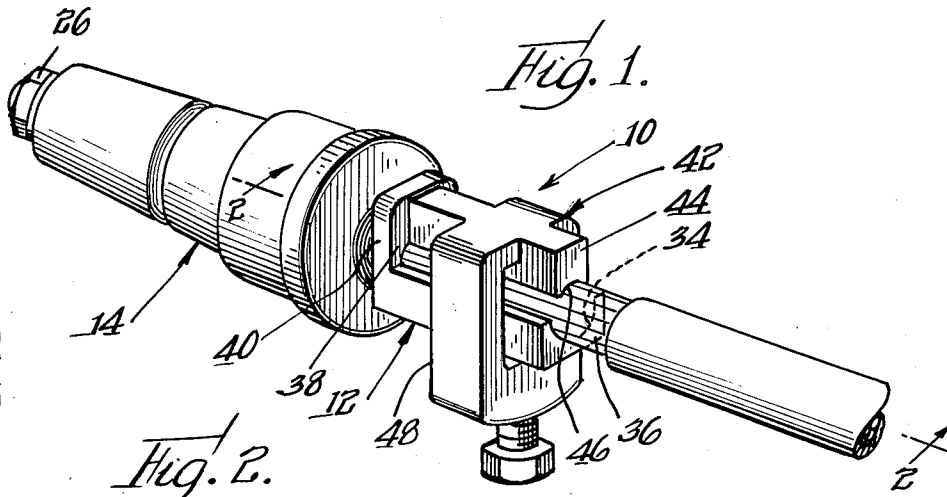
April 10, 1962

E. S. CORNELL, JR

3,029,410

TRANSFORMER CONNECTOR

Filed July 28, 1958



INVENTOR.
Edward S. Cornell, Jr.
BY *Olson & Tuxley*
attys.

1

3,029,410

TRANSFORMER CONNECTOR

Edward S. Cornell, Jr., Westport, Conn., assignor to Penn-Union Electric Corporation, Erie, Pa., a corporation of Pennsylvania

Filed July 28, 1958, Ser. No. 751,345

5 Claims. (Cl. 339-217)

The present invention relates to a novel electrical connector, and more specifically to a novel connector particularly suitable for use in connection with transformers and the like.

An important object of the present invention is to provide a novel transformer connector and the like which is of relatively simple, economical and rugged construction and which is adapted to provide an improved connection with wires or cables as compared with certain transformer connectors now in general use.

A more specific object of the present invention is to provide a novel transformer connector which is constructed so as to enable a wire or conductor to be clamped between relatively long uninterrupted and directly opposed seats or clamping surfaces which are drawn together in a manner which resists relative twisting or tilting of the seats whereby to obtain a more secure connection with the wire or cable.

A further object of the present invention is to provide a novel transformer connector of the above described type which is adapted to accommodate wires or cables of different diameters.

Another specific object of the present invention is to provide a novel transformer connector of the above described type which utilizes only a single screw to accomplish tightening thereof so that the connector may be assembled with the wire rapidly and easily.

Other objects and advantages of the present invention will become apparent from the following description and accompanying drawings wherein:

FIG. 1 is a perspective view showing a connector incorporating features of the present invention assembled with a conductor or cable;

FIG. 2 is a fragmentary partial sectional view taken along line 2-2 in FIG. 1;

FIG. 3 is a partial sectional view taken along line 3-3 in FIG. 2; and

FIG. 4 is a perspective view showing a portion of the clamping means of a connector incorporating features of the present invention.

Referring now more specifically to the drawings wherein like parts are designated by the same numerals throughout the various figures, a connector 10 incorporating features of the present invention includes a body member 12 formed from a suitable electrically conducting material such as copper, bronze or aluminum and assembled with an electrical insulator 14 which is formed from a ceramic or other suitable material. As shown in FIG. 2, the insulator 14 has a centrally located bore 16 extending there-through for accommodating an elongated rod or electrical conductor 18 which may be brazed or similarly connected to the body member 12 or threadedly connected in the manner shown. An end portion 20 of the body member 12 is provided with an internally threaded tubular extension 22 which projects into the bore 16 and receives a threaded end portion 24 of the conductor. The opposite end portion of the rod 18 is also threaded for accommodating a suitable nut 26 which is shown in FIG. 1 so that the rod may serve to connect the device 10 both mechanically and electrically with a suitable transformer, not shown.

The end portion 20 of the body member 12 is provided with an annular recess defined by a peripheral flange 28 for receiving an end of the insulator. A washer of plastic or any other suitable material is provided between the

2

opposing end faces of the insulator and the body portion 20 so as to form a seal for preventing the passage of moisture or any other foreign material into the central bore of the insulator.

The body member 12 is provided with an elongated section 32 which presents a substantially uninterrupted transversely contoured or curved seat 34 at one side thereof for accommodating a wire or cable 36. The seat 34 extends generally axially of the device from a transversely disposed stop and guide surface 38 which is provided by a flange 40 and which is perpendicular to the seat. The surface 38 may be used positively to locate the wire so as to facilitate assembly of the wire with the connector, and the surface also serves to guide a clamping member 42 associated with the body member 12 in the manner described fully below.

The clamping member 42 may advantageously be produced from the same material as the body member 12. The clamping member is provided with an elongated section 44 having a transversely contoured or curved wire accommodating seat 46 which is coextensive in length with the seat or clamping surface 34. As is shown in the drawings, the clamping member is disposed so that the seat 46 is parallel to and directly opposed to the seat 34. The clamping member also includes opposite side portions 48 and 50 which snugly and slidably embrace opposite side surfaces 52 and 54 of the body section 32. The portions 48 and 50 of the clamping member connect the clamping section 44 with another portion 56 which traverses the side of the body section 32 opposite from the seat 34.

A threaded aperture 58 extends through the portion 56 of the clamping member and threadedly receives a screw 60. It is to be noted that the axis of the aperture 58 is perpendicular to and bisects the longitudinal axis of the wire clamping surface or seat 46. This reduces any tendency for the clamping member to twist or tilt relative to the body section 12 when the opposed clamping surfaces are drawn together in the manner described below.

When assembling the wire or cable 36, the clamping member 42 is positioned so that a flat end of the clamping section 44 thereof abuts the flat stop and guide surface 38 of the body member 12. In addition the screw member 60 is loosened sufficiently to enable the cable 36 to be inserted between the clamping surfaces or seats 34 and 46. It is to be noted that the inner end of the screw 60 extends into a recess 62 formed in the body member 12 so as to prevent undue relative axial sliding movement between the members 12 and 42. The wire or cable is inserted until the end thereof abuts the stop surface 38 and then a screw member 60 is tightened. It will be noted that the connecting sections 48 and 50 of the clamping member and an end of the clamping section 44 slidably engage the guide surfaces 38, 52 and 54 on the body member 12 so as to prevent the clamping member 42 from twisting relative to the body member for insuring a secure mechanical and an electrical connection with the wire or cable 36.

While the preferred embodiment of the present invention has been shown and described herein, it is obvious that many structural details may be changed without departing from the spirit and scope of the appended claims.

The invention is claimed as follows:

1. A connector comprising: an electrical insulator having a bore therethrough; an electrically conductive body member having a stud portion projectable into said bore and a flanged portion arranged to enclose one end of said insulator when said stud portion projects into said bore, said body member further having an elongated seat portion; an electrical conductor extending through said bore to engage said stud portion; and yoke means slidably receiving said seat portion and including an elongated seat co-extending and cooperating with said seat portion, said yoke means further including screw means for urging said

3

seat and said seat portion together for clamping a cable therebetween.

2. A connector comprising: an electrical insulator having a bore therethrough; an electrically conductive body member having an internally threaded stud portion projectable into said bore and a flanged portion arranged to enclose one end of said insulator when said stud portion projects into said bore, said body member further having an elongated, cable-accommodating seat portion; an electrical conductor extending through said bore to engage said stud portion with a cooperatively threaded end portion; and yoke means slidably receiving said seat portion and including an elongated, cable-accommodating seat co-extending and cooperating with said seat portion, said yoke means further including screw means for urging said seat and seat portion together for clamping a cable therebetween.

3. A connector as defined in claim 2 wherein said yoke means includes a pair of spaced-apart parallel sides for guidably receiving said seat portion.

4. A connector as defined in claim 2 wherein said body member includes stop-and-guide-surface means disposed perpendicular to said seat portion for engaging a cooperating surface on said yoke means.

5. A connector comprising an electrically conductive and generally L-shaped body member defining an elongated cable accommodating seat portion and stop surface means disposed perpendicular to and facing along said seat portion; a yoke member encompassing said seat portion for relative sliding movement with respect to the

4

body member, said yoke member including opposed and relatively narrow side portions snugly and slidably embracing the side surfaces of said seat portion and top and bottom portions connecting said side portions, means providing an elongated seat carried by the top portion of said yoke member and projecting below the undersurface of said top portion and longitudinally in opposite directions beyond said top portion and said side portions to be substantially co-extensive with said seat portion and in symmetrical opposition thereto for cooperation with the said seat portion in clamping a cable therebetween, said stop surface means on said body member being disposed across adjacent ends of said seat and said seat portion and providing a stop for a cable inserted therebetween and a limit stop in abutment with the adjacent end of said seat for locating the yoke member on the body member, and means associated with said bottom portion and cooperating between said yoke member and said body member for relatively urging said seat and said seat portion together for clamping a cable therebetween.

References Cited in the file of this patent

UNITED STATES PATENTS

2,021,912	Edmonds	Nov. 26, 1935
2,121,329	Rowe	June 21, 1938
2,159,757	Blakeslee	May 23, 1939
2,228,440	Chubbuck	Jan. 14, 1941
2,285,928	Jensen	June 9, 1942
2,358,946	Tornblom	Sept. 26, 1944
2,846,495	Link	Aug. 5, 1958