

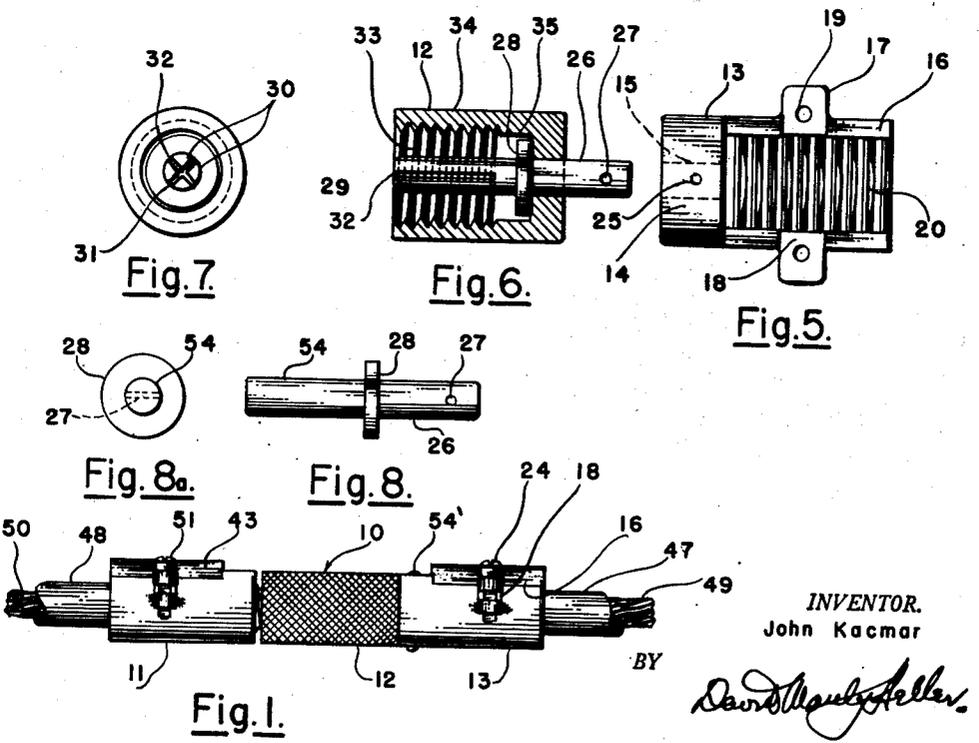
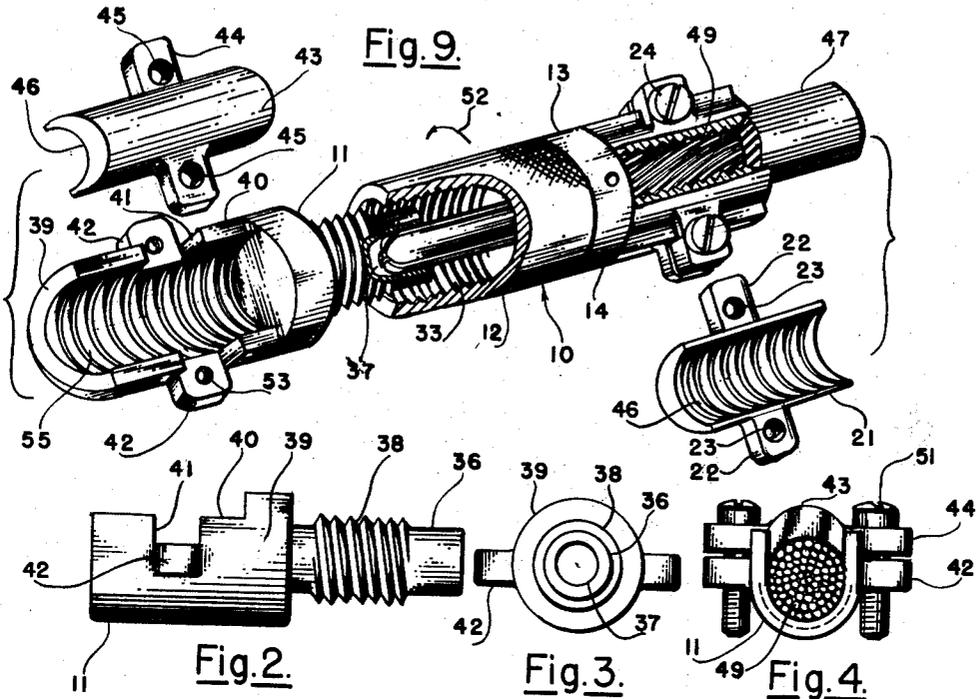
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ELECTRICAL CABLE CONNECTOR

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ELECTRICAL CABLE CONNECTOR

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My invention relates to electrical cable connectors and has for its specific purpose the function of permitting large cables to be connected and drawn up, tautly.

An important object of my invention is to provide a cable connector of the aforementioned character, which comprises two cable clamping units threadably engageable by a coupling having a turnbuckle function; the said cable clamping units being provided with male and female electrical contact engaging portions, so as to make a secure electrical connection.

A still further object of my invention is to provide a cable connector of the aforementioned character, wherein the cable clamping units are provided with resilient male contact means in one of said clamping units engaging female contact means in the other of the said cable clamping units, so as to form a rigid and suitable electrical connection.

A still further object of my invention is to provide in cable connectors, sectional body and cap elements provided with grooved, serrated, or knurled engaging surfaces for rigidly clamping the multiple wires of a cable.

Another object of my invention is to provide an electrical cable connector made up of a few elements and parts so that it will lend itself to manufacture economically, in quantity production.

Other objects and advantages, inherent in my invention, will become apparent from an examination of the accompanying drawings, bearing further elucidation in the ensuing description, wherein like numerals are utilized to designate like parts, and in which:

Fig. 1 represents a front elevational view of my cable connector invention.

Fig. 2 shows a front elevation of one of the cable clamping elements.

Fig. 3 is an end view, thereof.

Fig. 4 is an end view of Fig. 1, showing a cap element secured to a clamping unit in clamping relationship with a cable made up of a multiplicity of wires.

Fig. 5 is a top elevational view of the mating cable clamping unit.

Fig. 6 is a longitudinal cross-sectional view of the turnbuckle connection for tautly securing the two cable clamping units.

Fig. 7 is an end view of Fig. 6.

Fig. 8 is a detailed view of a modified form of electrical contact.

Fig. 8a is an end view of Fig. 8.

Fig. 9 is a perspective view of my invention

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showing the cable connector caps removed therefrom, also showing, by portions being broken away, the way the electrical contacts make electrical connection as well as the method in which the cable wires are secured in rigid clamping relationship.

Referring to the various views, my invention is generally designated 10 and consists of a cable clamping element 11, a mating cable clamping element 13, and a threaded nut adjusting unit designated 12.

The cable clamping unit designated 11, consists of a cylindrical body portion 39, having a stepped formation 40, and a slotted formation 41, transversely of the said stepped formation 40.

At the lowermost portion of the slotted portion 41, emanate two clamping ears 42, each provided with suitably threaded holes as indicated at 53.

The mating cap 43 is partly cylindrical in configuration and is provided with the serrated portion, internally, designated 46.

Clearance holes 45 in the lugs 44, which are placed in superimposition over the lugs 42 and located in place by virtue of the slotted portion 41 are firmly held in place by the fillister head screws 51.

The cable 48 has some of its strands 50 stripped of insulation so that they may be clamped, as indicated in Fig. 9.

The mating clamping unit 13 consists of a cylindrical body portion 14, having an undercut portion 16, a slotted portion 18, and a pair of lugs 17, having threaded holes as indicated at 19.

The said clamping unit is also serrated, or roughened, as indicated at 21 for rigid clamping relationship, with the insulation stripped wires 49, and is adapted to hold in assembly the cap 21, similarly to the manner in which cap 43 is assembled and being further provided with lugs 22 and clearance holes 23 to receive the fillister head screws 24.

The body 14 of the mating clamping unit 13 is provided with a drilled hole 25, at right angles to the bore 15, through which a pin 54' is assembled to hold the pin contact element 26 in rigid security with the mating clamping unit 13 by virtue of drilled hole 27.

The pin contact element 26 is provided with an enlarged shoulder portion 28 fitted within the counterbore 35, terminating in threads 33 cut in the body 34 of the threaded nut means 12.

It will be noted that the terminal portion 29 of the electrical pin contact element 26 is slotted, as indicated at 32 and 31, the slots being cut preferably in right angular relationship in order

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to form the resilient sections 30 to fit, frictionally and firmly, within the socket 37 of clamping unit 11. Clamping unit 11 is provided with an extension 36 having a threaded portion 38 to engage the threaded portion 33 of element 12, and the body 34 is preferably knurled on the outside so when the same is rotated, to the right as indicated by arrow 52, it will tend to bring the clamping units 11 and 13 toward one another; thus, taking up the slack in the attachment of cables 47 and 48, subsequent to their clamping within the said clamping units 11 and 13.

In operation, cables 47 and 48, to be connected, have their ends stripped of insulation in order to bare the wires 49 and 50, which are clamped by virtue of the caps 21 and 43, firmly in place.

The threaded nut 12, having threaded portion 33, is then caused to engage the threaded portion 38 simultaneously contacting frictionally and electrically, by virtue of sections 30 of contact 29 entering the confines of the bore 37, the threaded nut 12 being subsequently rotated in a direction of the arrow 52 until the slack between cables 47 and 48 is completely taken up and adjusted.

Another form of contact is exemplified in Figs. 8 and 8a, whereby its terminal contact portion 54, which fits into the bore 37, is not slotted and is frictionally fitted to the bore 37.

Thus to attach cables 47 and 48, the following procedure is resorted to: each cable has a portion of its insulation cut away to bare the wires 49 and 50, respectively; the caps 43 and 21 are loosened by virtue of loosening screws 24 and 51; cable wires 49 and 50 are inserted in the respective clamping units indicated and the caps 21 and 43 are secured firmly in place by means of the screws 24 and 51, clamping the wires 49 and 50 firmly between the serrations 46, 55 and 20, so as to form a substantial and rigid connection, then the threaded nut element 12 is threadably attached, by means of its thread 33 engaging the threaded portion 38 and ultimately rotated in the direction of arrow 52 in order to take up the slack and form a good substantial rigid electrical contact.

Having thus disclosed and revealed my invention, what I claim as new and desire to secure by Letters Patent, is:

1. Adjustable electrical cable connector means, comprising a cable clamping unit adapted to hold in rigid electrical connection an electrical

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cable, a mating clamping unit adapted to hold in rigid electrical connection another electrical cable, and threaded means interconnecting the said units and adapted to draw the said units together, the said cable clamping unit being provided with a reduced threaded extension having a contact socket at the terminus thereof, a cooperating pin contact element secured to the said mating cable clamping unit provided with an enlarged shoulder portion, the said threaded means being provided with a female threaded bore engageable with the said reduced threaded exterior, and further provided with an abutment rotatably fitted about the said enlarged shoulder portion, whereby the said units are drawn together by rotation of the said threaded means.

2. Adjustable electrical cable connector means, comprising a cable clamping unit adapted to hold in rigid and releasable electrical connection an electrical cable, a mating clamping unit adapted to hold in rigid and releasable electrical connection another electrical cable, the said clamping unit being provided with a reduced male threaded extension having an electrical contacting socket at its terminus, a threaded element removably securable to the said reduced threaded extension, an electrical pin contacting element having an enlarged shoulder portion intermediate its ends, one end thereof being fixedly secured to the said mating cable unit and being also rotatably secured to the said threaded element, the free end of the said pin contacting element being cross-slotted to afford electrical contacting resiliency thereto in order to fit frictionally within the said electrical contacting socket resulting in effective electrical contact simultaneously permitting adjustment between the said clamping unit and the said mating clamping unit without disturbance to the flow of electrical current.

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