July 5, 1949. R. O. HUDSON 2,475,184

ELECTRIC CORD SPLICE

Filed April 27, 1944

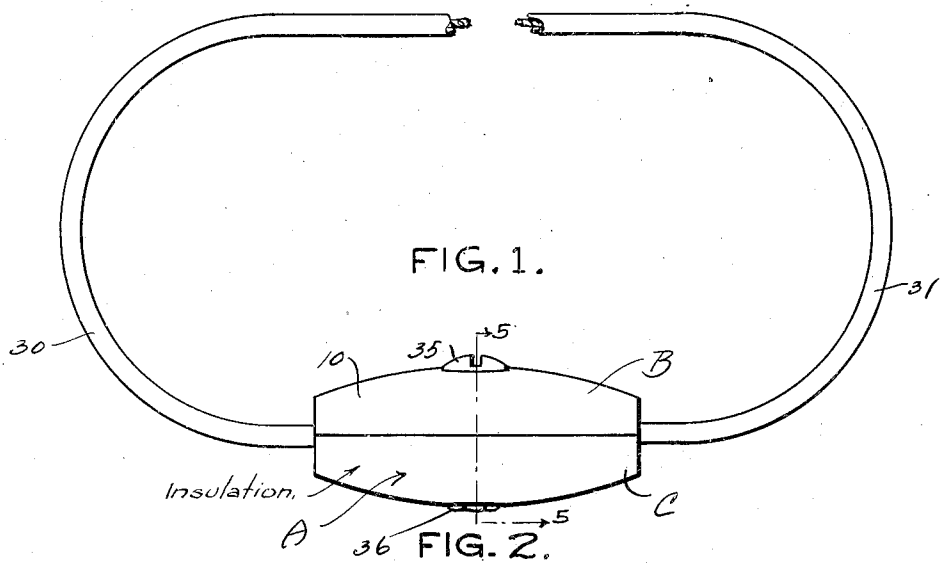


FIG. 1.

FIG. 2.

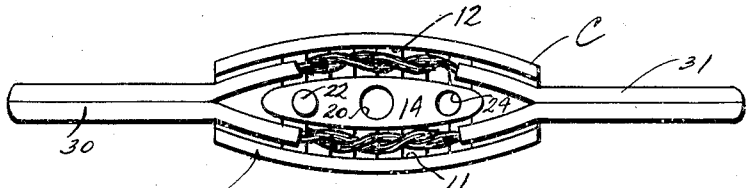
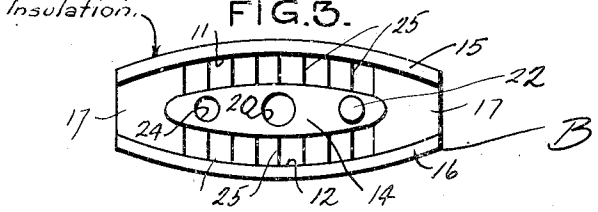


FIG. 3.



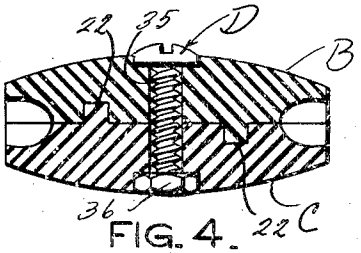


FIG. 4.

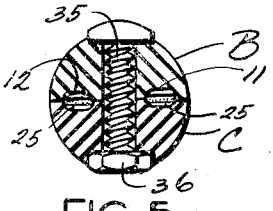


FIG. 5.

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ELECTRIC CORD SPLICE

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4 Claims. (Cl. 174—92)

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This invention relates to improvements in connectors for electric wires and cables.

The usual method of repairing electrical cords, wires and cables is to remove part of the insulation, individually twist the wire ends together and wrap them with tape. This type of repair is cumbersome, unsatisfactory and tedious. The preferred method of connecting wires is by soldering, but very few people have the equipment or knowledge to properly solder wires. This method is also unsightly. With the present invention the novice can twist together the individual ends of the wires of the cables much in usual manner, and then quickly encase them in the parts of the connector for the purpose of safely and surely connecting the wires in a properly insulated relation. I am, of course, aware that connectors have heretofore been used, but in the main they do not make proper provision for expeditious connection of the cables, since they employ conductor strips, screws, etc. in order to accomplish the actual splice connection. With the present invention it is to be noted that no screws or electrical conducting strips are associated directly with the wire portions of the cable to be connected.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawing, forming a part of this specification, and wherein similar reference characters designate corresponding parts thruout the several views,

Figure 1 is a side elevation of the improved connector showing the ends of the cables extending therefrom.

Figure 2 is a plan view showing one section of the connector detached from the other section, with the individual twisted ends of the wires channeled in the section.

Figure 3 is a similar view of the complementary section (both sections are similarly formed).

Figure 4 is a longitudinal cross sectional view taken axially thru the connector with the cables removed.

Figure 5 is a transverse cross sectional view taken substantially on the line 5—5 of Figure 1.

In the drawing, wherein for the purpose of illustration is shown only a preferred embodiment of the invention, the letter A may generally designate the improved connector. It consists of a pair of parts B and C, connected by means D.

The parts B and C are of similar construction. The two of them are arranged in complementary relation to provide a complete connector. Each

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part consists of an elongated semi-oval-shaped insulation body, which may be of rubber, thermo-setting plastic, or other approved insulation material. They may be molded, cast, stamped or otherwise manufactured in a single processing operation. The body includes an exterior convex surface 10 having channels 11 and 12 paralleling the side walls thereof, formed by an intermediate channel separation portion 14, the surface of which is flush with the surfaces of the side walls 15 and 16 defining the said channels 11 and 12, as is apparent from the drawings. The ends of the portion 14 terminate short of the ends of the walls 15 and 16 to provide a conduit portion 17 for the channels. Each of the parts B and C is provided with a transverse central opening 20, adapted to receive the connecting means D. In addition, each part B and C is provided with a stud 22, preferably formed integral therewith, at one end of the projecting portion 14, extending normal to the flat surface of said portion 14; the said stud or member 14 at its opposite end being provided with a socket 24. Along each of the channels or grooves 11 and 12 the material of the body section is serrated, preferably in the form of teeth 25 which extend into the channels, preferably slightly below the normal surfacing of these channels, so as to provide some space for clamping of the twisted wires. This permits the sections B and C to completely close and avoids cutting of the wires when the complementary parts of the connector are assembled in surface to surface contact, as shown in Figure 5 of the drawings.

Concerning the mode of using the connector, the ends 30 and 31 of the electrical cordage of cable have the insulation thereof removed for approximately ¾" to expose the ends of the individual wires. The latter are then individually twisted together much as in the usual manner of making a spliced connection, and the said twisted ends are then placed in the channels or grooves 11 and 12 of one part of the connector. The other part of the connector is then placed over the same, with the stud portion 22 of one part of the connector assembled in the socket 24 of the other part of the connector. This prevents turning movement of the parts relative to each other. The means D for clamping the parts of the connector together is then assembled in the openings 20. This means consists of a screw threaded shank bolt portion 35 and a nut 36. The outer ends of the passageways 20 are enlarged to accommodate the head and nut of the bolt.

Various changes in the shape, size and arrange-

ment of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. In a connector for securing in an insulated housing the spliced ends of electrical conducting wires the combination of a pair of complementary insulation connector parts each provided with a pair of separate grooves therein which are joined at the ends of each of the sections, said sections between said grooves each including a projecting portion which separates said grooves, the bottoms of said grooves for the lengths of said projecting portions having shallow wire gripping serrations and which terminate short of the points where the grooves of each section join, and means extending transversely through said sections at the loci of said projecting portions connecting said sections together and clamping the spliced ends of electrical conducting wires therebetween.

2. In a connector for securing in an insulated housing the spliced ends of electrical conducting wires the combination of a pair of complementary insulation connector parts each provided with a pair of separate grooves therein which are joined at the ends of each of the sections, said sections between said grooves each including a projecting portion which separates said grooves, the bottoms of said grooves for the lengths of said projecting portions having tooth-like serrations which terminate short of the points where the grooves of each section join, and means extending transversely through said sections at the loci of said projecting portions connecting said sections together and clamping the spliced ends of electrical conducting wires therebetween, each of said sections on its projecting portion having a stud at one side of the means which connects said sections and a socket at the opposite side of the means which connects said sections constructed and arranged so that the stud of one section will fit in the socket of the other section whereby to prevent lateral movement of said sections when connected by said means.

3. In a connector for securing in an insulated housing the spliced ends of electrical conducting wires the combination of a pair of complementary insulation connector parts each provided with a pair of separate arcuately shaped grooves with the concave sides facing and which are joined at the ends of each of the sections, said sections between said grooves each including a projecting portion which separates said grooves, the bottoms

of said grooves for the lengths of said projecting portions having tooth-like serrations which terminate short of the points where the grooves of each section join, and means extending transversely through said sections at the loci of said projecting portions connecting said sections together and clamping the spliced ends of electrical conducting wires therebetween, each of said sections on its projecting portion having a stud at one side of the means which connects said sections and a socket at the opposite side of the means which connects said sections constructed and arranged so that the stud of one section will fit in the socket of the other section whereby to prevent lateral movement of said sections when connected by said means.

4. In a connector for securing in an insulated housing the spliced ends of electrical conducting wires the combination of a pair of complementary insulation connector parts each provided inwardly of one face thereof with a pair of grooves of elongated formation which are joined at the proximate ends of said grooves at each end of the respective parts and which grooves are separated from each other by an elongated insulation separator portion, terminating appreciably short of the juncture of said grooves at their ends, the bottoms of said grooves each being provided with wire gripping serrations for engaging and clamping the spliced bared ends of electrical conducting wires together when the connector parts are assembled, and means for connecting said parts together so that the grooves of one part face the grooves of the other part in a wire receiving passageway.

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