ELECTRICAL CONNECTING LUG

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ABSTRACT

A connector lug for electrical wires, the lug having an extruded body, a hole through the body in the extrusion direction, a rib extending in the extruded direction, and an elongated tang mounted on said rib and projecting from said body in the extrusion direction.

4 Claims, 7 Drawing Figures
ELECTRICAL CONNECTING LUG

This invention relates to an electrical connector and, more particularly, the invention relates to a connector having a tang for attachment to a bus bar or the like and a body secured to one end of the tang, the body having a hole therethrough extending longitudinally in the direction of the tang and adapted to receive an electrical wire.

In the past, connector lugs of the type to which the present invention relates have been either an integral cast body and tang, or have been an extruded integral body and tang. The cast lug has been expensive and too weak to be completely satisfactory. In the extruded form, elongated stock of a generally "L" shape has been extruded in a direction transverse to the projecting tang. Because of the requirement of extruding transverse to the direction of the tang, the body portion must be drilled in two directions to form a wire hole extending in the direction of the tang and to form a hole which is tapped to receive a screw to clamp a wire in the wire hole. The two disadvantages to this form are, first, the requirement of drilling two holes, and second, the wire hole must necessarily be round unless an expensive machining operation is performed to provide a more desirable irregular shape.

In the past, connectors of this type have also been made by extruding stock, forming an irregularly shaped hole in the direction of the extrusion and cutting the stock into short body-forming lengths. These bodies have been secured to a tang by means of a bolt and lock washer.

It has been an objective of the invention to provide a tang connector whose body is extruded and has a hole formed by the extrusion process and is hence capable of having diverse shapes to accommodate various sizes of wires, the body being secured to a tang by means other than a bolt and lock washer.

It has been a further objective of the invention, in an extruded connector, to provide a large wire hole which is adapted to receive a large wire, but to provide that hole with a small or short radius groove adapting it to receive a smaller wire which can be clamped into the groove by the clamping screw.

The objectives of the invention are attained by extruding an elongated body-forming blank having an irregularly shaped wire-receiving hole and also extruding, on the bottom surface of the blank, a longitudinally projecting rib. The blank is sawed into body-forming lengths and a tang is slotted and secured to the rib simply by peening over the rib to secure the tang to the body.

It has been another objective of the invention, in providing a tang connector of the type described, to saw or otherwise remove a small end portion of the rib so that a completely enclosed slot in the tang can be mounted over the rib with one end of the tang lying flush with the end of the body. The removal of the end portion of the rib is preferably done by a stepped saw by which the blank is cut into body-forming lengths so that the sawing and rib removal are performed simultaneously.

These and other objectives of the invention will become more readily apparent from the following detailed description taken in conjunction with the accompanying drawings in which

FIG. 1 is a diagrammatic perspective view illustrating certain of the steps in forming the connector,
FIG. 2 is a perspective view showing the material removed from the rib of each connector body,
FIG. 3 is a perspective view illustrating the final step in forming the connector,
FIG. 4 is a perspective view of the completely formed connector,
FIG. 5 is a cross-sectional view of the completed connector,
FIG. 6 is a cross-sectional view, taken along the lines 5-5 of FIG. 4, and FIG. 7 is a cross-sectional view similar to FIG. 6 illustrating the connector receiving a small wire.
It should be understood that while the invention has been described in connection with the securing of a body member to a tang, it is within the scope of the invention to secure body members directly to bus bars or to devices other than the tang shown herein. For example, an irregularly shaped bus bar could be slotted and the body member, having its rib formed as illustrated, could be secured to the bus bar with the rib inserted in the slot and peened or staked as described.

We claim:

1. An electrical connector lug comprising,
an extruded body having a wire-receiving hole extending in the extrusion direction,
an elongated rib projecting from the bottom of said body and extending longitudinally in the extrusion direction,
a tang mounted on the bottom of said body and having an elongated slot receiving said rib, said tang having a free end projecting from said body in the extrusion direction, said rib being peened to secure said tang to the bottom of said body.

2. An electrical connector lug according to claim 1 in which said wire-receiving hole has an irregular configuration, being large to accommodate large wires and having a groove of smaller cross section than said wire hole in the lower surface thereof to accommodate small wires,

3. An electrical connector lug comprising,
an extruded body having a wire-receiving hole extending in the extrusion direction and having a bottom surface, an elongated rib projecting form the bottom of said body and extending longitudinally in the extrusion direction, said rib having at least one end spaced from the edge of said bottom surface,
a tang mounted on the bottom surface of said body and having an elongated slot, said slot terminating short of one end of said tang and receiving said rib with said one end of said rib adjacent said one end of said tang,
said tang projecting from said body in the extrusion direction and having a forward edge which is substantially flush with the forward face of the lug, said rib being peened to secure said tang to said body.

4. An electrical connector lug according to claim 3 in which said tang slot is wedge-shaped and flares outwardly from said body, said rib having a mating wedge-shaped configuration.

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