

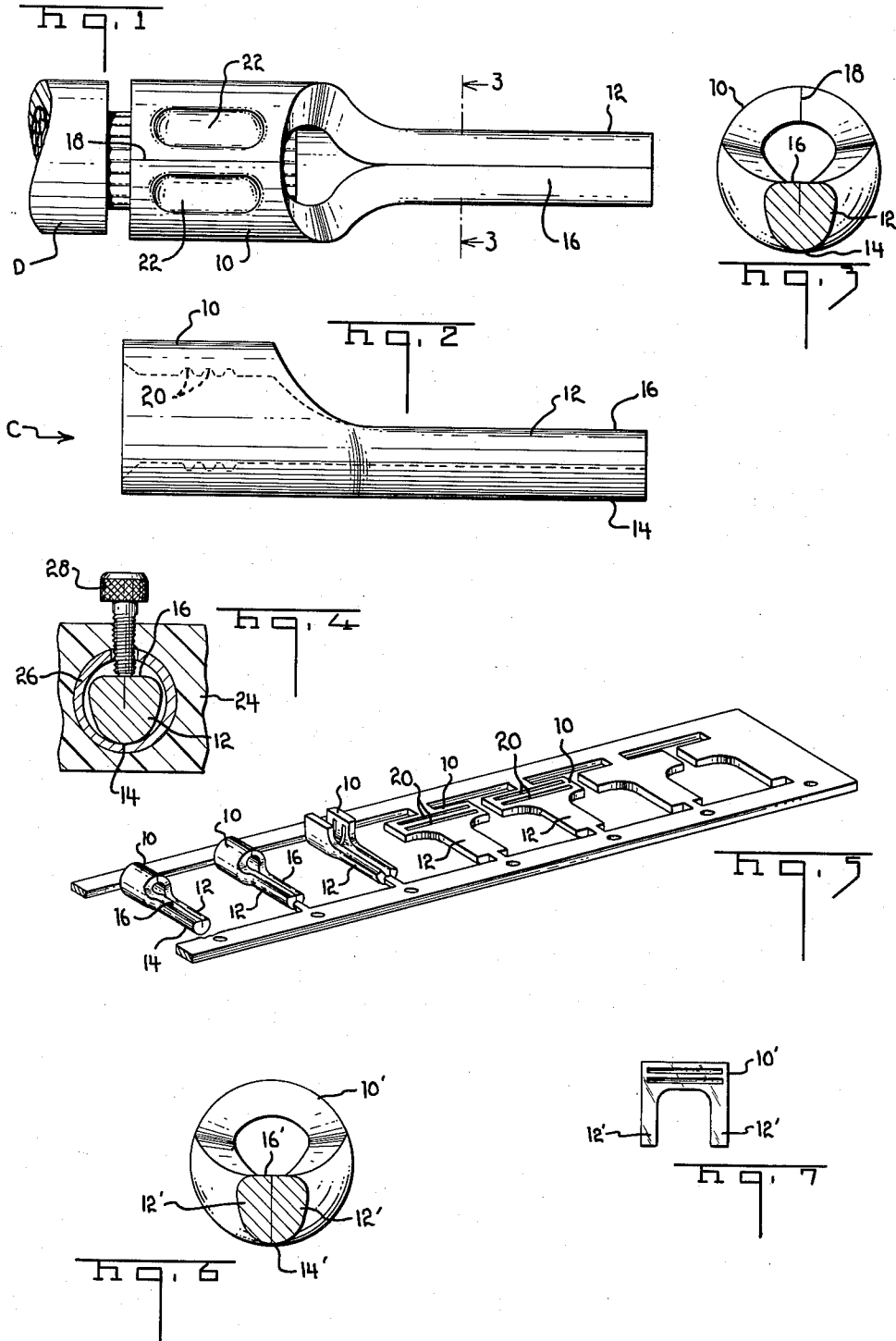
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CONNECTOR PINS

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CONNECTOR PINS

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3 Claims. (Cl. 339-272)

This invention relates to electrical connectors, of the pin type, having a ferrule for making a permanent attachment (for example, by crimping or soldering) to an electrical conductor, and a connecting means for releasably securing it in a receptacle.

It is an object of this invention to provide a ferrule-type connector having a pin emanating therefrom, which is adapted to be secured in a receptacle. The ferrule is adapted to be crimped to an electrical conductor, and the pin is adapted to conform with the curvature of the receptacle while having a portion adapted to receive a set screw for holding it in place.

It is a further object of this invention to provide a sheet metal, electrical connector having a ferrule portion and a pin portion. The ferrule and pin are rolled to permit the ferrule to be crimped to an electrical conductor and permit the pin to be inserted into a mating receptacle.

It is also an object of this invention to provide a sheet metal, electrical connector having a pin which has a curvature mating with the curvature of the receptacle, and also having a flat portion adapted to receive a means for holding the pin in the receptacle.

Other objects and attainments of the present invention will become apparent to those skilled in the art upon a reading of the following detailed description when taken in conjunction with the drawings in which there is shown and described an illustrative embodiment of the invention; it is to be understood, however, that this embodiment is not intended to be exhaustive nor limiting of the invention but is given for purposes of illustration in order that others skilled in the art may fully understand the invention and the principles thereof and the manner of applying it in practical use so that they may modify it in various forms, each as may be best suited to the conditions of a particular use.

In the drawings:

FIGURE 1 is a top plan view of an electrical connector crimped to a conductor and embodying the principles of this invention;

FIGURE 2 is a side view of the connector of FIGURE 1 apart from the wire;

FIGURE 3 is a sectional view taken through plane 3-3 of FIGURE 1;

FIGURE 4 is a view similar to FIGURE 3 illustrating the pin in a terminal block with a set screw holding it in place;

FIGURE 5 is a view of a sheet metal strip illustrating the connector shown in FIGURES 1-4 blanked out of a progressive die strip;

FIGURE 6 is a view, similar to FIGURE 3, of an alternative embodiment; and

FIGURE 7 is a top plan view of the blank used to form the connector illustrated in FIGURE 6.

As shown in FIGURES 2 and 5, the connector C includes a ferrule-forming portion 10 and a pin-forming

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portion 12 integral therewith. The sheet metal connector may be stamped out of flat stock (FIGURE 5) with the ferrule-forming portion 10 being wider than the pin-forming portion 12. The ferrule-forming portion 10 is rolled into a cylindrical shape so that it is adapted to receive a conductor D. The pin-forming portion 12 is also rolled up and shaped to form a rounded bottom surface 14 and a flat top surface 16. The ferrule-forming portion 10 may be brazed along its seam 18 (FIGURE 1) and may also include serrations 20 on its inner surface. It is noted that the longitudinal axis of the pin is parallel to the longitudinal axis of the ferrule-forming portion. The conductor D is stripped of insulation at one end and the uninsulated portion inserted into the ferrule-forming member 10 and crimped by suitable indentations 22.

The pin portion 12 may be inserted into a terminal block 24 (FIGURE 4) having a cylindrical receptacle 26 therein. A set screw 28 protruding through the terminal block 24 and receptacle 26 bears upon the flat surface 16 on the pin. As shown in FIGURE 4, the arcuate bottom surface of the pin 12 corresponds to the curvature of the receptacle 26. It is also noted that the flat surface 16 which the pin 28 engages is diametrically opposed to the curved portion 14 which engages the receptacle. Thus the tightening of the set screw 28 forces the electrical conductive surfaces into tight engagement.

The device illustrated in FIGURES 6 and 7 has a ferrule-forming portion 10' with pin-forming portions 12' emanating therefrom. The portions 10' and 12' are rolled into a cylindrical form, and the pin-forming portion is shaped to form a flat surface 16'. The connector may be employed in the same manner as the connectors illustrated in FIGURES 1-5.

Changes in construction will occur to those skilled in the art and various apparently different modifications and embodiments may be made without departing from the scope of the invention. The matter set forth in the foregoing description and accompanying drawings is offered by way of illustration only.

We claim:

1. A connector pin having a ferrule for making a permanent attachment to an electric conductor and a pin part for making a releasable connection to a receptacle in a terminal block, the pin being integrally formed from a sheet metal blank and the pin part being formed from part of the blank folded into a substantially solid cylindrical form of uniform cross-section and having a diametral seam, the pin part having one side substantially flat and normal to the seam to receive a screw of the block and the diametrically opposite side rounded to match the curvature of the receptacle.

2. A connector pin according to claim 1 in which the pin part is formed from a double thickness of the sheet metal blank and the diametral seam extends through substantially half of the thickness of the pin part.

3. A connector pin according to claim 1 in which the rounded side of the pin part is an extension of part of the outer surface of the ferrule.

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