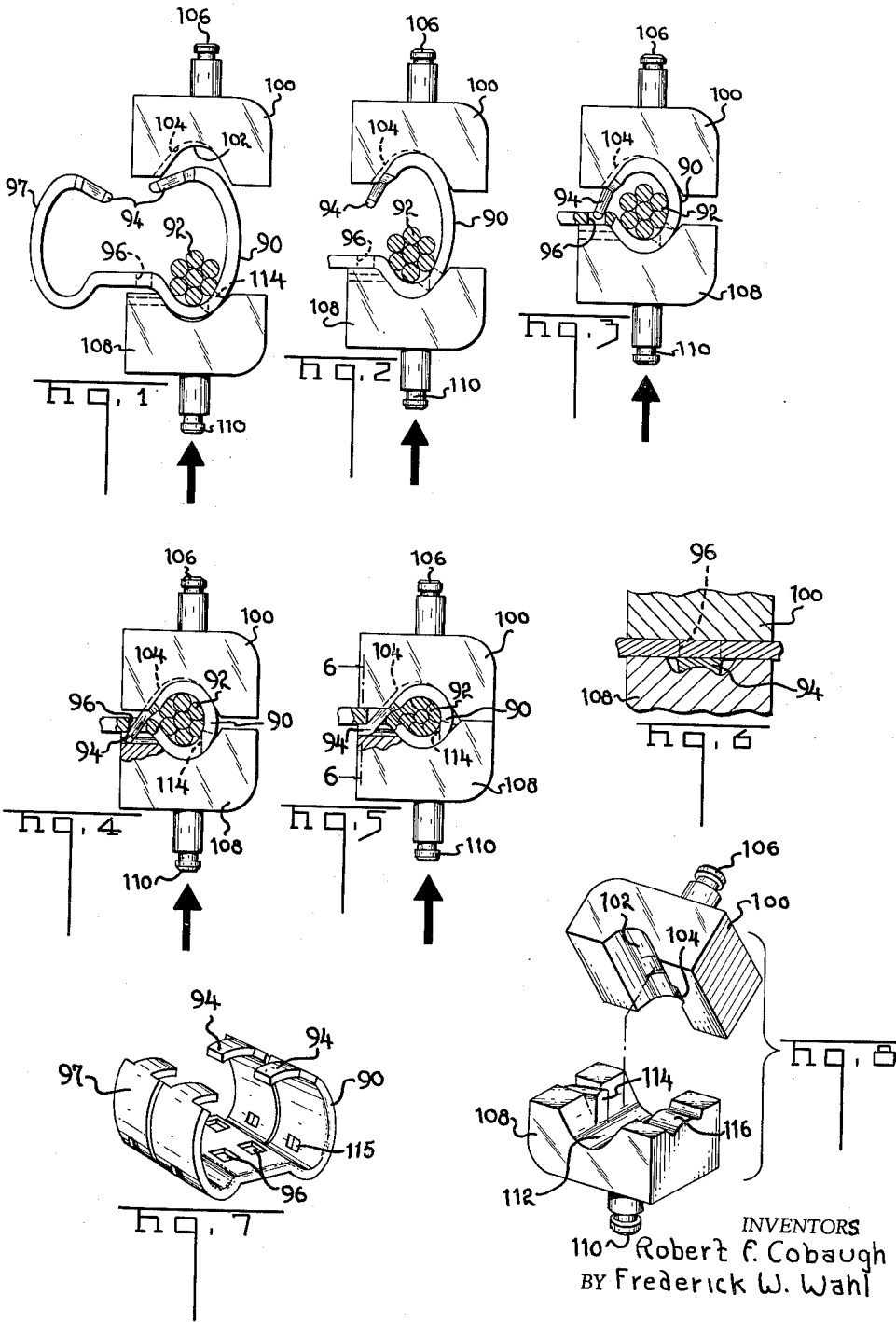


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DIES FOR CRIMPING TOOL

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DIES FOR CRIMPING TOOL

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 4 Claims. (Cl. 153-1)

This invention relates to a pair of dies for pressure forming connectors onto conductors. It is particularly applicable to a connector that is secured intermediately of the ends of a conductor, i.e. a "T-tap." In securing a T-tap to a conductor it is particularly desirable to have an open ferrule connector which may be wrapped around the conductor and then crimped thereon. The connector may have a second ferrule as an integral part thereof so that a second conductor may then be inserted into the second ferrule and a connection made between the tap-off line and the overhead line.

One approach in making such a connection is to wrap the ferrule around the conductor so that tabs on one edge are fed into slots on the other edge and locked in place after the crimp is made, note application Serial No. 573,709, filed March 26, 1956, in the name of Robert F. Cobaugh, now abandoned.

Tools shown in the prior art for making such a crimp employ dies that require a two stroke crimping tool, one stroke for wrapping the ferrule around the conductor and driving the tabs through the slot. A second cycle is then introduced, wherein the tabs are clinched or locked in place.

The object of this invention is to provide a pair of dies for making such a connection whereby it may be crimped and locked in a single operation.

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:

FIGURES 1-5 show a connector being deformed onto a conductor through various stages of deformation;

FIGURE 6 is a sectional view through 6-6 of FIGURE 5;

FIGURE 7 illustrates a connector prior to being crimped onto a conductor.

FIGURE 8 is a perspective view of the dies shown in FIGURES 1-5.

The connector is fully shown and described in the copending application referred to above. Generally it consists of a ferrule forming portion 90 which wraps around a conductor 92. Tabs 94 on one end thereof fit into slots 96 and are deformed therein to clinch or lock them in place. Additionally the ferrule forming portion 90 is crimped onto the conductor 92. A second, similar ferrule forming portion 97 is integral with the portion 90 and serves to receive a second conductor to splice it to the first conductor.

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As shown in FIGURE 8, the upper die 100 has an arcuate working surface 102 with a kerf 104 cut therein. A die retaining pin 106 secures the die in a tool.

The lower die 108 has a similar die retaining pin 110, a corresponding arcuate working surface 112, and a pin or abutment 114 on one side thereof which is adapted to project into a recess 115 in the connector to locate the connector within the die. A clinching surface 116 on the lower die is situated so that it corresponds to the kerf 104.

As shown in FIGURE 1, the connector is located between the dies by alignment with the pin 114. The tab 94 fits into the kerf 104 to properly align it with respect to the top die 100. The slot 96 is positioned above the clinching surface 116. As the dies are brought together into crimping relationship (FIGURES 2-4), the upper die directs the tab 94 into the slot 96. Continued relative movement of the dies (FIGURE 5) crimps the connector onto the conductor 92. Additionally this movement forces the tab outwardly against the clinching surface 116 as well as deforming it to lock the connector to the conductor.

The clinching surface 116 is slightly recessed, FIGURE 6, to permit the tab 94 to pass through the slot 96 (FIGURE 4) before being locked in place. Also this clinching surface may be arcuate to deform the tab as well as clinching it.

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. The actual scope of the invention is intended to be defined in the following claims when viewed in their proper perspective against the prior art.

We claim:

1. A pair of dies for crimping and locking electrical connectors of the type having a locking tab onto conductors including a first die having an arcuate working surface with a kerf in one side thereof, and a second die having a complementary working surface with a raised abutment on one side and a clinching surface on the other side, whereby the abutment locates the connector in the dies, the working surfaces crimp the conductor to the connector and the clinching surface locks the connector in place.

2. The device of claim 1 wherein the clinching surface in the lower die is disposed opposite to the kerf in the upper die.

3. The device of claim 1 wherein the clinching surface is disposed adjacent to the working surface and includes a recessed portion adapted to accommodate a tab on the connector.

4. The device of claim 3 wherein the recessed portion on the working surface is arcuate in cross section to deform and bend the tab on the connector.

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