Nov. 6, 1956 W. A. MORIARTY 2,769,357

CONNECTOR CRIMPING TOOL WITH PIVOTED AND FIXED JAWS

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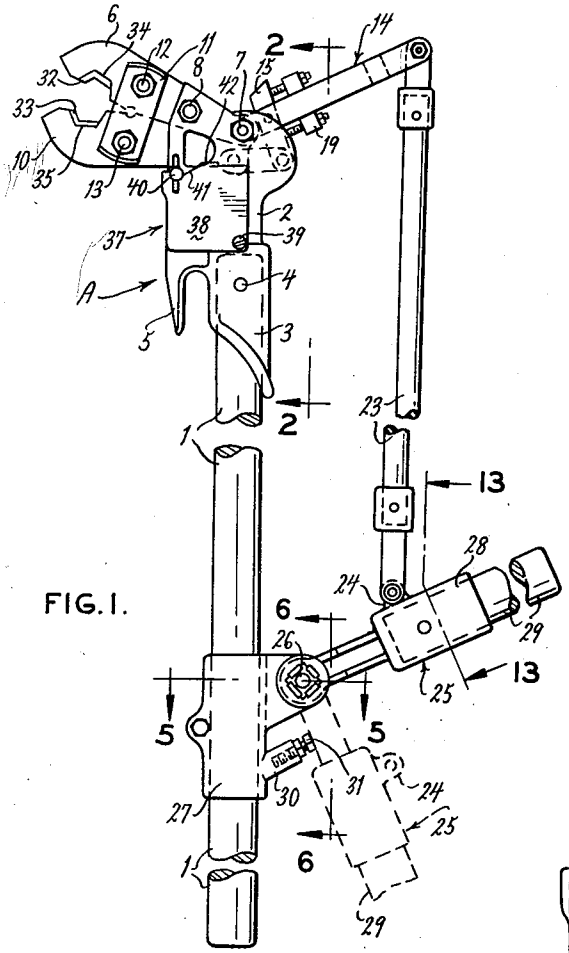


FIG. 1.

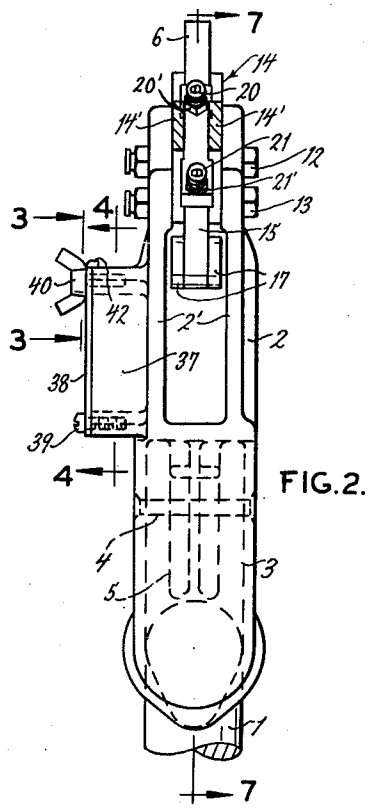


FIG. 2.

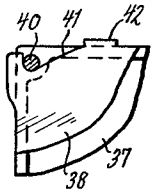


FIG. 3.

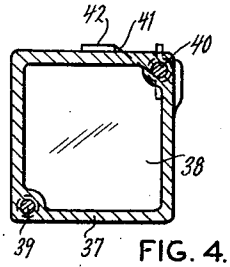


FIG. 4.

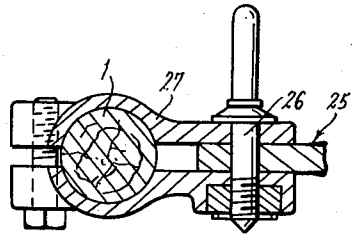


FIG. 5.

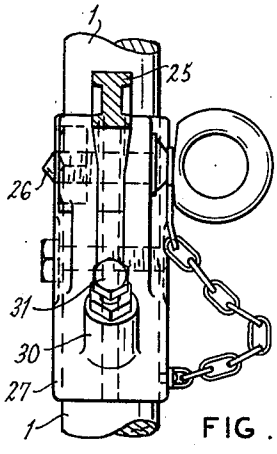


FIG. 6.

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FIG. 7.

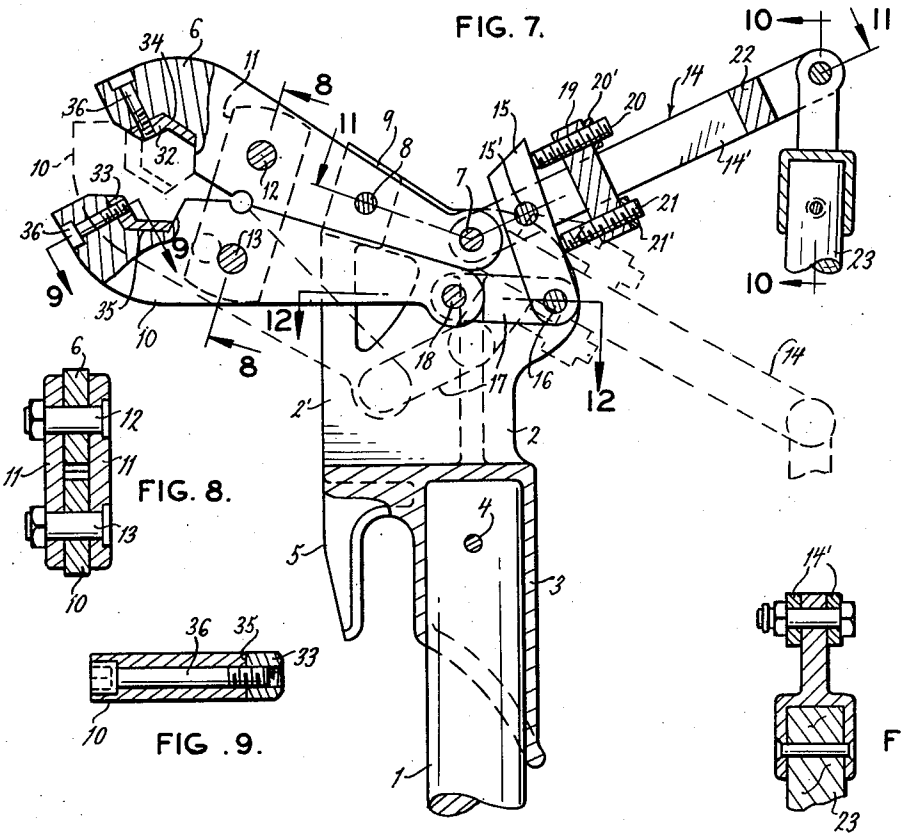


FIG. 8.

FIG. 9.

FIG. 10.

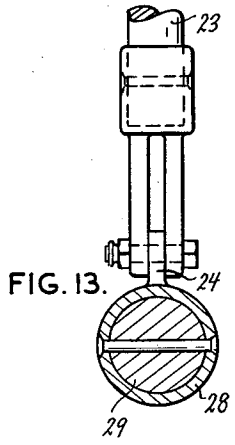


FIG. 13.

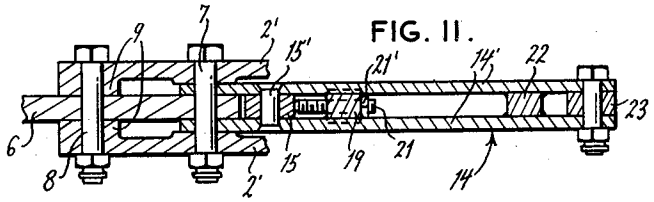


FIG. 11.

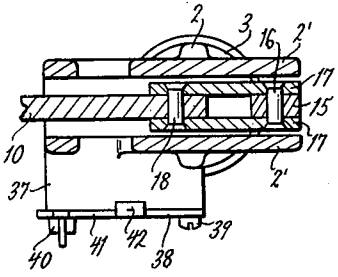


FIG. 12.

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CONNECTOR CRIMPING TOOL WITH PIVOTED AND FIXED JAWS

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Application April 27, 1954, Serial No. 425,844

4 Claims. (Cl. 81—15)

This invention relates generally to tools and more specifically to crimping tools adopted particularly, though not exclusively, for use in performing the operation of crimping electrical connectors to electrical conductors for mechanically and electrically connecting electrical conductors together, the predominant object of the invention being to provide such a tool which is simple in construction and arrangement and is capable of performing its intended function in an improved and highly efficient manner.

Fig. 1 is a side elevation of the improved tool of this invention, parts thereof being broken away in order that the tool may be illustrated on a larger scale.

Fig. 2 is an enlarged, fragmentary vertical section taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary section showing parts of the tool structure and taken on line 3—3 of Fig. 2.

Fig. 4 is a vertical section taken on line 4—4 of Fig. 2.

Fig. 5 is an enlarged, horizontal section taken on line 5—5 of Fig. 1.

Fig. 6 is an enlarged, fragmentary, vertical section taken on line 6—6 of Fig. 1.

Fig. 7 is an enlarged, vertical section taken on line 7—7 of Fig. 2.

Fig. 8 is a sectional detail taken on line 8—8 of Fig. 7.

Fig. 9 is a sectional detail taken on line 9—9 of Fig. 7.

Fig. 10 is a fragmentary sectional view taken on line 10—10 of Fig. 7.

Fig. 11 is a section taken on line 11—11 of Fig. 7.

Fig. 12 is a horizontal section taken on line 12—12 of Fig. 7.

Fig. 13 is an enlarged section taken on line 13—13 of Fig. 1.

In the drawings, wherein is shown for purposes of illustration, merely, one embodiment of the invention, A designates the improved tool generally, said tool comprising an elongated pole 1 which serves as the handle of the tool. Mounted at the top of the pole 1 is the head 2 of the tool which is provided with a socket portion 3 that receives the upper portion of the pole 1, a pin 4 being employed for securing the head to the pole. The portion of the head 2 which is located above the socket portion of said head is bifurcated, said portion of said head comprising two transversely spaced, upstanding legs 2', and at a side of said socket portion the head 2 is provided with a hook-shaped portion 5, as is shown to good advantage in Figs. 1 and 7. Secured to the head 2 is a fixed jaw 6, said jaw being secured in place with respect to the head by a bolt 7 and a bolt 8. The spaced legs 2' of the head 2 are provided with inwardly projected extensions 9 between which a portion of the jaw 6 is disposed, the bolt 8 extending through openings formed through the legs of the head and through the extension 9, and through an aperture formed through the jaw 6, as is shown to good advantage in Fig. 11. The improved tool A of this invention includes a movable jaw 10 which is secured to the fixed jaw 6 for movement with respect thereto by means of a pair of plates 11 which

are disposed at opposite sides of the fixed and movable jaws, said plates being secured fixedly to the fixed jaw 6 by means of a bolt 12, and said movable jaw being secured to said plates 11 for movement by a bolt 13, the bolts 12 and 13 extending through openings formed through said plates and through apertures formed through said jaws (see Fig. 8).

Mounted for rotary movement about the bolt 7 is an arm structure 14 which comprises a pair of spaced members 14', the rear end portion of the fixed jaw 6 being extended between the forward end portions of the pair of spaced members 14', as shown in Fig. 11, and the bolt 7 being projected through apertures formed through said spaced members and through the rear end portion of the fixed jaw 6. Extended between the spaced members 14' of the arm structure 14 is a cross bar 15 which is pivotally attached to said spaced members by a rivet 15', said cross bar having pivotally connected to its lower end by means of a pivot element 16 a pair of links 17, the opposite end of each link being pivotally connected by means of a pivot 18 to the rear end portion of said movable jaw 10. Disposed between and rigidly fixed to the spaced members 14' of the arm structure 14 is a cross member 19 which extends at an approximate right angle to the arm structure (see Fig. 7), said cross member being provided with two adjusting screws 20 and 21 which are disposed in screwthreaded openings formed through the cross member and said adjusting screws contact at ends thereof with the cross bar 15, as shown to good advantage in Fig. 7. The spaced members of the arm structure 14' are maintained in their spaced relation by a spacer 22 which is located adjacent to the outer end of said arm structure 14, and pivotally connected to the outer end portion of said arm structure is a connecting link 23, said connecting link being pivotally connected at its opposite end to an ear 24 formed on a fitting 25 which is pivotally attached, by means of a pivot element 26, to a member 27 that is clamped about the pole 1, said fitting including a socket portion 28 which fixedly receives an end portion of a handle 29. The member 27 is provided with an extension 30 which is provided with a screwthreaded opening that receives an adjusting screw 31 which serves as a stop that is adapted to be engaged by a part of the fitting 25 to limit downward movement of the handle 29.

The jaws 6 and 10 of the tool A are provided respectively with crimping dies 32 and 33 which fit into recesses 34 and 35 that are provided for their reception, each die being secured in place in its recess by a screw 36, as shown to good advantage in Fig. 7. Also, the head 2 of the tool A has formed on one side thereof a box-like receptacle 37 which is provided with a closure element 38. This receptacle receives dies of different sizes intended for use with the tool, together with screws for fastening such dies in place in the recesses 34 and 35 of the jaws 6 and 10, and a tool for actuating the screws. The closure element 38 of the receptacle 37 is secured in place by means of a screw 39 which is located in a lower corner of the receptacle, and by a wing bolt 40 which is located in an upper corner of the receptacle. The closure element is provided with a notch 41 in which the wing bolt is disposed, and said closure element is provided with a lug 42 which overlies the top wall of the receptacle slightly when the closure element is in its closed position, it being necessary, merely to back up the wing bolt slightly to allow the lug to clear the top wall of the receptacle when it is desired to move the closure element to its open position, the screw 39 being loose enough to permit said closure element to swing thereabout.

In the use of the improved tool of this invention the tool is elevated with the aid of the handle 1 to the location

of the connector which is to be crimped with the help of the tool, and an extremely important feature of the improved tool is the angle at which the jaws **6** and **10** extend from the head **2** (see Figs. 1 and 7). Because of this angle of the jaws, said jaws may be fed over a connector to be crimped in a very convenient manner. With the jaws **6** and **10** of the tool A in the proper position relative to the connector to be crimped, the handle **29**, moves downwardly with the result that the link **23** will pull the rear portion of the arm structure **14** downwardly. The adjusting screw **21**, on such downward movement of the rear portion of the arm structure, bears against cross bar **15** and through the instrumentality of the links **17** moves the forward portion of the movable jaw **10** toward the forward portion of the fixed jaw **6** to perform the crimping operation. In like manner, when the handle **29** is operated in the opposite direction to move the forward portion of the movable jaw **10** away from the forward portion of the fixed jaw **6**, the adjusting screw **20** is caused to bear against the cross bar **15** and impart the proper movement to the jaw **10** through the links **17**. In order to fix the adjusting screws **20** and **21** in positions to which they have been adjusted so as to properly relate the jaws **6** and **10** for operation, said adjusting screws **20** and **21** are provided, respectively, with lock nuts **20'** and **21'**.

I claim:

1. A crimping tool comprising an elongated pole, a bifurcated head mounted fixedly at one end of said pole, a first jaw secured in fixed relation with respect to said head, a second jaw supported for pivotal movement by said first jaw and with respect to said first jaw, said jaws being extended outwardly relative to said head at a substantial angle, and means for moving said movable jaw relative to said fixed jaw, said means comprising a movable arm structure, a pivoted handle, and a link for connecting said arm structure to said handle, and adjusting means for adjusting the initial relative positions of said jaws, said adjusting means comprising a member secured to said arm structure, a cross bar pivotally mounted on said arm structure, adjusting elements supported by said member and contacting said cross bar and link means interconnecting said cross bar and movable jaw.

2. A crimping tool comprising an elongated pole, a bifurcated head mounted fixedly at one end of said pole, a first jaw secured in fixed relation with respect to said head, a second jaw supported for pivotal movement by said first jaw and with respect to said first jaw, said jaws being extended outwardly relative to said head at a substantial angle, and means for moving said movable jaw relative to said fixed jaw, said means comprising a movable arm structure, a pivoted handle, and a link for connecting said arm structure to said handle, and link means interconnecting said cross bar and movable jaw and adjusting means for adjusting the initial relative positions of said jaws, said adjusting means comprising a member secured to said arm structure, a cross bar pivotally mounted on said arm structure, adjusting elements comprising adjusting screws supported by said member and contacting said cross bar and link means interconnecting said cross bar and movable jaw.

3. A crimping tool comprising an elongated pole, a bifurcated head mounted fixedly at one end of said pole, a first jaw secured in fixed relation with respect to said head, a second jaw supported for pivotal movement by said first jaw and with respect to said first jaw, said jaws being extended outwardly relative to said head at a substantial angle, and means for moving said movable jaw relative to said fixed jaw, said means comprising a movable arm structure, a pivoted handle, and a link for connecting said arm structure to said handle, and adjusting means for adjusting the initial relative positions of said jaws, said adjusting means comprising a member secured to said arm structure, a cross bar pivotally mounted on said arm structure, adjusting elements comprising adjusting screws supported by said member and contacting said cross bar, and elements for connecting said cross bar to said movable jaw.

4. A crimping tool comprising an elongated pole, a bifurcated head mounted fixedly at one end of said pole, a first jaw secured in fixed relation with respect to said head, a second jaw supported for pivotal movement by said first jaw and with respect to said first jaw, said jaws being extended outwardly relative to said head at a substantial angle, and means for moving said movable jaw relative to said fixed jaw, said means comprising a movable arm structure, a pivoted handle, and a link for connecting said arm structure to said handle, and adjusting means for adjusting the initial relative positions of said jaws, said adjusting means comprising a member secured to said arm structure, a cross bar pivotally mounted on said arm structure, adjusting elements comprising adjusting screws supported by said member and contacting said cross bar, and elements comprising links for connecting said cross bar to said movable jaw.

References Cited in the file of this patent

UNITED STATES PATENTS

752,436	Boyd	Feb. 16, 1904
1,909,846	Porter	May 16, 1933
2,462,709	Ball	Feb. 22, 1949
2,600,860	Dupre	June 17, 1952
2,616,316	Dupre	Nov. 4, 1952