

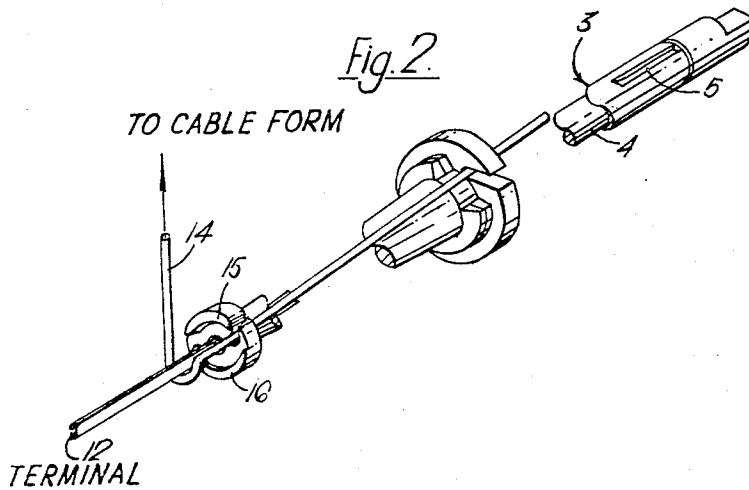
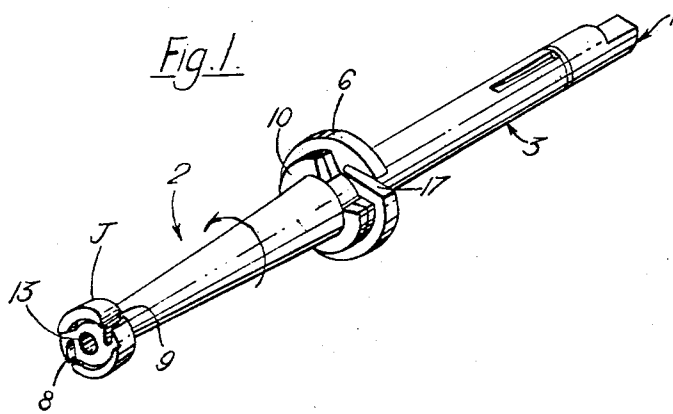
April 16, 1968

L. T. WOOD ET AL

3,378,048

WIRE WRAPPING TOOLS

Filed Aug. 27, 1965



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WIRE WRAPPING TOOLS

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Filed Aug. 27, 1965, Ser. No. 483,120

Claims priority, application Great Britain, Sept. 4, 1964, 36,340/64

4 Claims. (Cl. 140—124)

ABSTRACT OF THE DISCLOSURE

A tool for severing a desired length of insulated wire and for wrapping the severed wire tightly around a terminal lug. The tool strips the insulation from the length of wire just prior to wrapping it on to the terminal lug. A specially shaped jaw facilitates such stripping of insulation.

The present invention relates to a wire-wrapping bit, such as used for making wrapped electrical connections in telecommunications.

According to the present invention there is provided a wire-wrapping bit, which includes means for wrapping a wire about a terminal when the bit is rotated, means to cut the wire to the correct length for the required number of wrapping turns, and means to strip insulation off the wire during the wrapping.

According to the present invention there is further provided a wire-wrapping bit, which includes a hole at its front end which can receive a terminal to be wrapped, first cutter means also at said front end through which an insulated wire to be wrapped may be passed, which cutter means is so proportioned as to cut the insulation of the wire to be wrapped but not the wire, and further cutter means between the ends of the bit and adapted to cut both the wire and its insulation, wherein when a terminal to be wrapped is fitted into said hole the wire to be wrapped thereto is passed through both said cutter means, said cutter means both operating when the bit rotates, and wherein the distance between said cutter means is such that the portion of wire therebetween is of a length appropriate to the number of turns of wire to be wrapped to the terminal.

An embodiment of the present invention will now be described with reference to the accompanying drawing, in which FIG. 1 is an oblique view of a bit according to the invention, while FIG. 2 is a similar view with a terminal and wire in place.

The bit is intended for use with a wire-wrapping gun of well-known type either electrically or pneumatically operated, and at its rear-end it has a D-section portion 1 which fits into the wrapping gun for engagement with the latter's driving shaft. The bit includes two main members, a front member 2 and a rear member 3. As shown in FIG. 2, a portion 4 of the front member is concentric with and inside the rear member, and this portion 4 is pinned to the front end of the D-section portion 1.

The rear portion 3 does not rotate when in use, and it has a keyway 5 into which fits a pin on the end of the wrapping gun. This pin/keyway connection locks the rear member 3 against rotation. On its front end the rear member 3 has a disc-shaped portion 6 with a slot 7, this latter forming the stationary jaw of a wire cutter.

The front member 2, which rotates in a counterclockwise sense as shown by the arrow when in use, has jaw members at each of its ends. The front jaw member J has

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two slots 8 and 9, each of which forms a jaw for holding a length of wire. The rear face of each of these jaws has a cutting edge for cutting insulating sleeving off a length of wire. The rear jaw member 10 is of disc like shape, but with a sector missing, one edge of the radius left by the sector being a cutting edge.

The operation of the bit will now be described with special reference to FIG. 2. A terminal lug 12 to which a length of wire is to be attached by wrapping is inserted into an axial hole 13 (FIG. 1) in the front member 2 of the bit, and the wire 14 to be applied to the lug is fitted into one of the jaws 8 and 9 and also into the jaw formed by the slot 7 in the disc 6. Then the gun is switched on. The rotation of the front member 2 causes the wire cutter formed by the jaw members 6, J and 10 to cut the wire, thus fixing the length of wire forming the wrap to the distance defined by the length of the front member 2. As the wire rotates, the cutting edges on the back of the jaws member J shear through the insulating sleeve but not the wire, so as the wrapping occurs, wire with its sleeve removed is dragged forward through the front jaw member.

Thus the wire is cut to length, de-sleeved and wrapped on a lug in one single operation. The comma shaped portions 15, 16 on the front of the bit serve to close the last turn to be wrapped neatly on to the terminal lug.

The front end of the bit has its slots such as 8 and portions such as 15 duplicated so that the front end is easier to load than would be the case if only one cutter were provided. This is because when a panel is being wired, the wires to be dealt with are liable to cross the panel from any one of its edges, so that by providing two slots, loading is facilitated. The device could, however, be used without this duplication if desired.

It is to be understood that the foregoing description of specific examples of this invention is made by way of example only and is not to be considered as a limitation on its scope.

What we claim is:

1. A wire-wrapping tool comprising an elongated rotatable portion and a stationary portion concentric with part of said rotatable portion for supporting said rotatable portion while permitting rotational relative motion between said portions, said rotatable portion having at a first end thereof a jaw member fixed to said rotatable portion, said jaw member having a centrally located aperture for receiving the end of a terminal lug about which wire is to be wrapped, said jaw member also having at least one angled slot formed in the periphery thereof, at least one edge of said angled slot being sharpened to positively shear through the insulating sleeve and cut the insulation from said wire as said wire is to be wrapped about said terminal lug, said rotatable portion extending through said stationary portion and having at the second end thereof a shaped terminus for allowing torque to be applied to said rotatable portion, said rotatable portion further having intermediate said first and second ends and fixed to said rotatable portion a cutter having a generally circular shape with a sectoral portion missing, said cutter being fixed to said rotatable portion in a plane normal to the axis of said rotatable portion, said stationary portion having a disc member disposed adjacent said cutter and cooperating therewith to produce shearing action therebetween, said disc member having formed in the periphery thereof a notch for cooperating with the edges of said sectoral section missing from said cutter to sever said wire at such length as to permit a desired number of turns to be formed about said terminal lug.

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2. A wire-wrapping tool in accordance with claim 1 in which said angled slot in said jaw member is curved.

3. A wire-wrapping tool in accordance with claim 1 in which said jaw member has an angled slot on each side of said hole which receives the end of said terminal lug.

4. A wire-wrapping tool in accordance with claim 1 in which said jaw member has on one face thereof two forwardly extending comma-shaped portions for urging the end of said wire downward on said terminal lug.

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