

[54] **WIRING DRESSING TOOL**

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[58] Field of Search **140/115, 117, 122, 124;**
242/7.06, 7.17, 7.18

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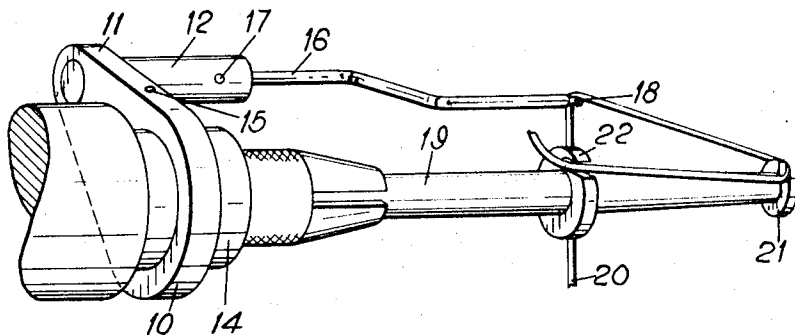
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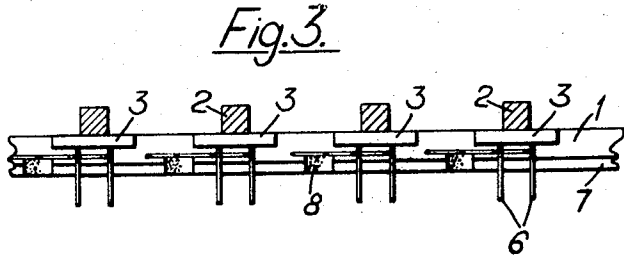
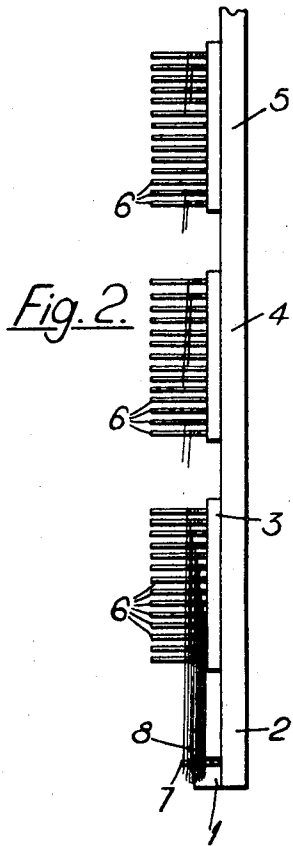
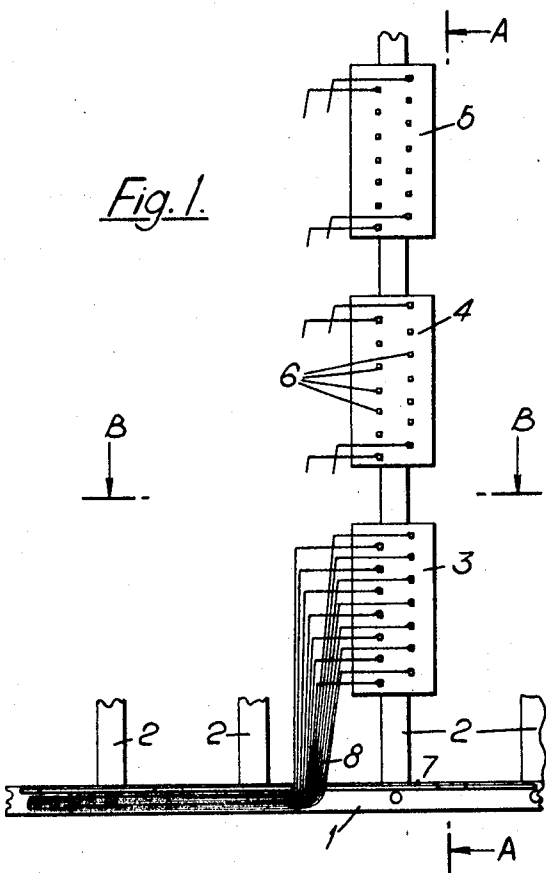
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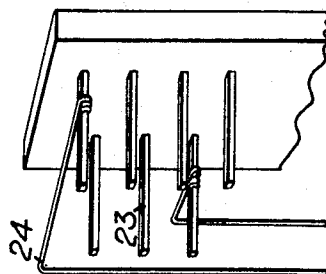
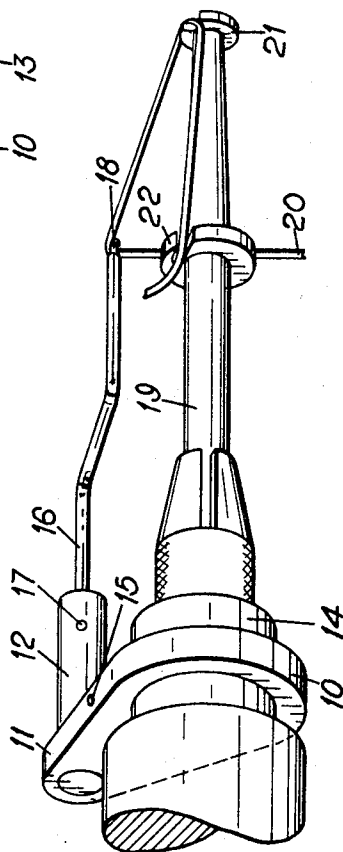
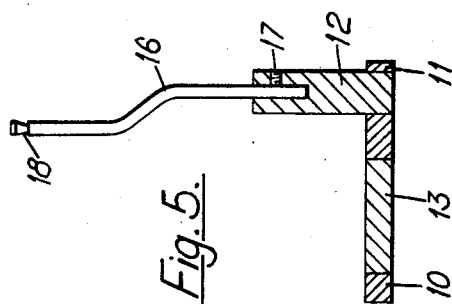
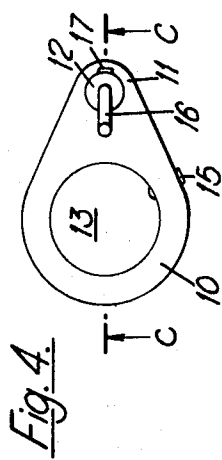
[57] **ABSTRACT**

A dressing tool for attachment to a wire-wrapping gun forms a bend of predetermined angularity in the wire. The tool is mounted on an eccentric collar fitted onto the wire-wrap gun shank to extend parallel to the wrapping bit.

7 Claims, 6 Drawing Figures







WIRING DRESSING TOOL

This invention relates to tools used in the connection of multiple wiring and cabling to terminal blocks. It is intended for use particularly in association with mechanized tools for carrying out wrapped wiring on terminal tags, its object being to assist in giving a neat overall "dressed" appearance to the wire loops or ends connected to such tags.

The wiring of cables and internal cable-forms to telephone apparatus and the like, racks, bays, terminal blocks and panels, for example, has always been enhanced in the finished product by suitable "dressing" of the wire ends connected to the terminal tags, since it is desirable always to leave a certain amount of slack in the wire ends to prevent a dragged appearance as well as to provide for any necessary rewiring subsequently. With modern developments in exchange equipment, a considerable amount of loose wiring without cable-forming is involved, and the advantages of time saving and increased productivity resulting from the use of certain mechanization techniques, notably wire strip-wrap-and-cut bits in power tools, tend to be negated if parallel techniques in wire-handling, including "dressing," are not also mechanized.

It is an object of the present invention to facilitate the "dressing" process by providing an adjunct for use with wire wrapping tools.

According to the invention, there is provided a wiring dressing tool for use with wire-wrapping guns which comprises a metal guide rod mounted on the rim of a metal collar adapted to be fitted securely to the stationary shank of a wire-wrapping gun, of known kind, the outer end of said rod being provided with a guide channel for insulated wire to be passed to the wrapping bit of said gun, the ends of said rod and said bit lying in a plane substantially normal to the axis of said gun, whereby wire to be wrapped by said gun around a terminal tag to be wrapped is drawn tightly over the end of said rod by such wrapping operation and is set with a sharp angular bend thereat, to give a "dressed" appearance to such a wire.

Also according to the invention, there is provided a conventional wire-wrapping-gun comprising such a wire dressing tool.

The invention will now be more particularly described with reference to the accompanying drawings, illustrating a preferred embodiment. In the drawings,

FIGS. 1, 2 and 3 show a section of a terminal block frame or rack for an electronic telephone exchange, respectively in front elevation, vertical section from the side, at A—A, and horizontal section above the first row of blocks, at B—B;

FIG. 4 shows in plan view a wiring-dressing tool, according to the invention, while

FIG. 5 shows a section of FIG. 4 at C—C; and

FIG. 6 shows in perspective the dressing tool in use with a known form of cut, strip and wrap tool in process of wiring a tag on a terminal block.

Referring now to the drawings, FIG. 1 shows a section of a terminal block rack consisting of a light channel framework 1, 2, supporting a number of terminal blocks 3, 4, 5, on one of its vertical channels 2. Each block contains two vertical rows of 7 tags referenced 6, the two rows being staggered with respect to one another. FIG. 2 shows a vertical section through the

rack taken from the right-hand side, while FIG. 3 shows a horizontal section from above the lower row of terminal blocks, each referenced 3.

Supported within the main horizontal rack channel 1 is a bundle of loose wiring or a cable form, the appropriate wires for the blocks 3, 4, 5 on one vertical channel 2 being brought up through a window in an insulating strip 7 as a bundle 8. These wires are individually picked out and wrapped in known manner about their appropriate tags 6 on 3, 4 and 5, using a wrapping gun, electrically or pneumatically driven, the wires for each block being dressed neatly in the manner shown. With hand-wiring and a soldering process, this presented no great difficulty to an accomplished wireman, but with present-day techniques, using wrapping guns, the wires almost inevitably are dragged in a short, straight line from the window in 7 on to the tag.

It is proposed by the invention to make use of this tendency to pull on the wiring to dress each wire as it is wrapped by means of an auxiliary dressing tool attached to the gun. Such a tool is illustrated in plan and section in FIGS. 4 and 5, and in use on a gun in FIG. 6, and is seen to consist of a light metal collar 10, e.g. of aluminum or similar metal, drawn out eccentrically at one side 11, to accommodate a light metal pillar 12 fitted securely into the portion 11. The aperture 13 in the collar is such as to be a close fit on the cylindrical fixed shank 14 of a gun, being secured by a set-screw 15 passed in through a part of the collar 10 where it begins to widen out towards 11. The pillar 12 is bored axially to accept a cranked guide-rod 16, preferably of silver steel, which is secured in 12 by means of a set-screw 17, and the outer end of 16 is shaped to provide a guide channel by an inwards chamfer at 18. The length of the rod on its pillar is such as to bring the chamfered end 18 level with a wrapping bit mounted in the gun, as will be described in what follows.

For use, the dressing tool is mounted on the shank 14 of a conventional wire wrapping gun, as shown in FIG. 6, with the guide-rod 18 set level, on the left of the operator, and a cut-strip and wrap bit 19 mounted in the chuck of the gun. Such a bit may be that illustrated in British Patent Specification 1,050,211 (L. T. Wood—T. G. Fisher 1—1) but any comparable bit will serve. A wire end 20 to be wrapped on a tag is fed over the end 18 of the dressing tool, through the front end 21 of the bit 19 and then through the cutting edge 22 of the bit 19, in the normal manner, and the bit is applied over the appropriate tag to be wrapped (23 in the figure). The gun is operated, the tag wrapped in the usual manner, and the wire from the frame (or cable form) is drawn tightly over the tool 16 to give a neat angular bend, as shown at 24.

With a single off-set for the tool (radial distance of end 18 from end 21) the wires on the two sets of tags on one block present the appearance shown on block 3 in FIG. 1. If it is desired that the wires for the two sets of tags should travel together, vertically, (the wire ends being compensated for the different distances to the tags) then either two different dressing tools must be provided, having different off-set distances, or (less desirably) advantage can be taken of the crank in 16 and the set-screw 17 to re-align the rod 16 with respect to the end 21 of the wrapping bit, and then relevering the dressing tool as a whole on the shank 14.

Alternatively, the guide rod 16 could be made a force fit in the pillar 12, or made integral therewith, and the pillar secured in the flange portion 11 by means of a set-screw.

Preferably, the collar and the pillar should be made as light as possible in weight to avoid adding unnecessary weight to the gun, and also unbalancing it.

The guide-rod need not be cranked, as shown, the purpose of the cranking being only to bring the ends of the two tools closer together. This feature gives rise, as a by-product, to the possibility of readjustment of the mutual separation, as above described.

The guide rod could be mounted direct in the flange 11, without the use of a pillar 12, but this would tend to increase the whip at the end of the guide rod, if this was of considerable length, and the pillar serves to reduce this.

By the use of the dressing tool described a rack of terminal blocks can be wired and neatly dressed in about one-third of the time normally required for this operation.

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.

We claim:

1. A wire dressing tool for use with wire-wrapping guns which comprises a metal guide rod mounted on the rim of a metal collar adapted to be fitted securely to the stationary shank of a wire-wrapping gun, the outer end of said rod being provided with a peripheral guide channel for insulated wire to be passed to the wrapping bit of said gun, the end of said rod and said bit lying in a plane substantially normal to the axis of said gun, whereby wire to be wrapped by said gun around a terminal tag to be wrapped is drawn tightly over the channel in said rod by such wrapping operation and is set with a sharp angular bend across said channel, to give the "dressed" appearance to such a wire.

2. A wiring dressing tool as claimed in claim 1, wherein said guide rod is cranked.

3. A wiring dressing tool as claimed in claim 1, wherein said guide rod is mounted on said flange so as to be rotatable thereabout.

4. A wiring dressing tool as claimed in claim 3, wherein said metal collar comprises a metal pillar upstanding from the face of said collar, which pillar is bored axially to accept the end of said guide rod.

5. A wiring dressing tool as claimed in claim 4, wherein said pillar is settable within said collar.

6. A wiring dressing tool as claimed in claim 4, wherein said guide rod is settable in said pillar.

7. A wiring dressing tool for use with wire-wrapping guns which comprises a steel cranked guide rod, chamfered peripherally adjacent its end to provide a wire-guiding channel, said rod being mounted in the axial bore of a light metal pillar and secured therein by means of a set-screw, the said pillar being firmly fixed in an eccentric extension of a light metal collar so as to be normally upstanding from the face thereof, the collar being bored so as to fit closely on the stationary shank of a conventional wire-wrapping gun to which it may be locked by means of a set-screw passing through the rim of the collar, the length of the guide-rod when the said tool is so mounted being such as to bring the chamfered end level with the end of a wire-wrapping bit mounted in the gun, and the cranking of said guide rod being such as to bring the end of the guide rod and the center of such a bit a specified distance apart when the guide rod is set in said pillar at its nearest to such a bit, whereby insulated wire to be wrapped by said gun around a terminal tag to be wrapped is passed over said channel of said guide rod to and through said wrapping bit, the process of wrapping said tag with the end of such a wire causing the wire to be drawn tightly over the channel of said guide rod and to be given a sharp angular bend about said rod, thereby giving a "dressed" appearance to such a wire.

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