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APPARATUS FOR REMOVING COVERINGS FROM ELONGATED ARTICLES

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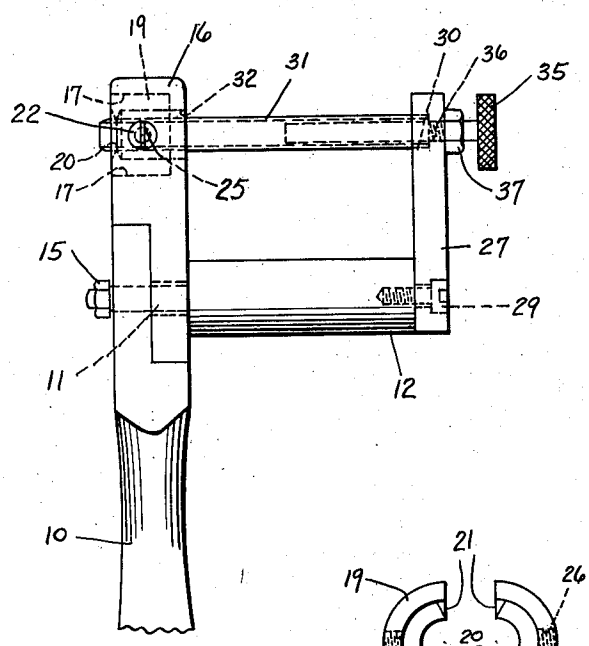


FIG. 1

FIG. 4

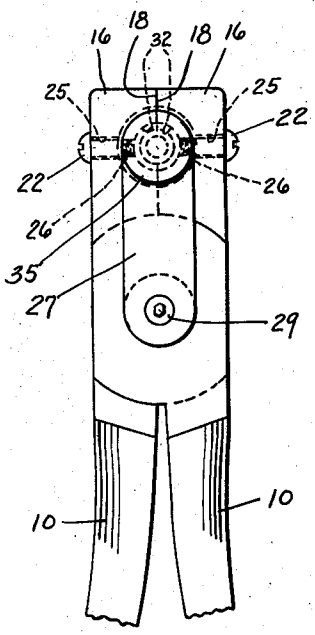


FIG. 2

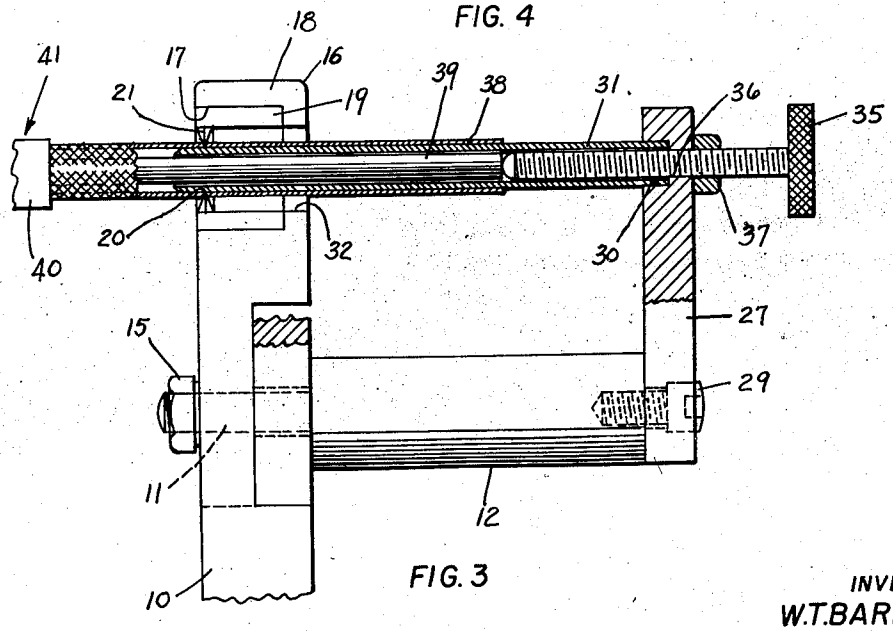


FIG. 3

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APPARATUS FOR REMOVING COVERINGS FROM ELONGATED ARTICLES

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9 Claims. (Cl. 30—179)

This invention relates to apparatus for removing coverings from elongated articles.

In the manufacture of conductors having metal braids surrounding the insulation thereon it often becomes necessary to remove portions of the braids from the ends of the conductors. With apparatus heretofore known it has been difficult to rapidly remove predetermined lengths of braids from the ends of conductors without damaging the insulation of such conductors.

An object of this invention is to provide new and improved apparatus for removing coverings from elongated articles.

One apparatus embodying the invention comprises two legs having jaws formed thereon and pivotally connected in the form of pliers, opposed semicircular knives carried by the jaws to cut a circular braided shield, a stop to limit the movement of the knives, an arm carried by the pivoted legs, and a tubular member carried by the arm for insertion beneath a braid to be severed so that the braid is held between the tubular member and the cutting knives, whereby the insulation beneath the braid is uninjured when the braid is severed.

A clear understanding of the invention may be obtained from the following detailed description of one embodiment thereof, when read in conjunction with the appended drawing, in which:

Fig. 1 is a fragmentary plan view of a device embodying the invention;

Fig. 2 is a side elevation of the device;

Fig. 3 is an enlarged plan view in partial section of the device, and

Fig. 4 is an enlarged elevation of a pair of knives forming a portion of the device.

Referring now to the drawing, two legs 10—10 (Fig. 2) are pivotally mounted upon a reduced pin-like end 11 (Figs. 1 and 3) projecting from a rod 12. A nut 15 threaded upon the pin-like end 11 secures the legs 10—10 thereon. A pair of jaws 16—16 formed on the ends of the legs 10—10 are provided with a pair of complementary semicircular sockets 17—17 extending partially therethrough. The closing of the jaws 16—16 is limited by the tips 18—18 thereof.

A pair of semicircular bushings 19—19 (Fig. 4) having opposed semicircular cutting edges 20—20 and opposed straight cutting edges 21—21 formed thereon are secured in the sockets 17—17 (Figs. 1 and 2) by a pair of screws 22—22, which pass through holes 25—25 formed in the jaws 16—16 and are threaded into a pair of tapped bores 26—26 formed in the bushings.

An arm 27 (Fig. 4) secured transversely to the end of the rod 12 by a screw 29 has a socket 30 formed in one end thereof. A tube 31 is rigidly mounted in the socket 30 so as to be concentric with the bores 17—17 when the jaws 16—16 are in the position shown in Fig. 2. The tube 31 passes through a pair of semicircular notches 32—32 formed in the jaws and extends slightly beyond the cutting edges 20—20 and 21—21. The diameter of the notches 32—32 is considerably larger than the external diameter of the tube 31.

An elongated set screw 35 (Fig. 4) is threaded through a threaded bore 36 formed in the arm 27 and the end thereof extends into the tube 31. The set screw 35 may be secured by a nut 37 so that it extends any desired distance into the tube 31.

In the operation of the above-described apparatus, the end of a metallic braid 38 (Fig. 3) covering an insulated core 39 is slightly loosened from the core 39. The core 39, the braid 38, and a rubber jacket 40 form a cable 41. The jaws 16—16 are opened and tube 31 is inserted between the braid 38 and the core 39 until the end of the core strikes the end of the set screw 35. Thus, the end of the metallic braid 38 is slid over the end of the tube 31.

The jaws 16—16 are then closed and the cutting edges 20—20 force the metallic braid 38 against the tube 31, and with the cutting edges 21—21, sever the braid. The semicircular cutting edges 20—20 whose diameters are the same as the external diameter of the tube 31 are permitted by the tips 18—18 to touch the tube 31 after the severing operation, but are prevented by the tips from cutting the tube 31. The end of the metallic braid 38 thus severed is held by the cutting edges 20—20, and the ends of the core 39 and the braid 38 are withdrawn from the tube 31. The jaws 16—16 are then opened to release the severed end of the metallic braid 38 and the braid is drawn off the tube 31. The operation may then be repeated with the end of another cable similar to the cable 41.

If it is desired to sever different lengths of the ends of the braids, the nut 37 may be unscrewed and the set screw 35 adjusted farther into or out of the tube 31, accordingly.

The above-described embodiment of the invention may be used to sever uniform lengths of braid or other coverings without damaging insulation positioned therebeneath. All the ends of the braids are neat and form perfect circles around the cores.

What is claimed is:

1. A tool for removing coverings from conductors, which comprises a cutting means, and

a member insertable between a covering and an elongated article covered thereby for cooperating with the cutting means to sever a portion of such a covering from such an article and for protecting such an article from damage from the cutting means.

2. A tool for removing coverings from conductors, which comprises a cutting means and means adapted to be inserted between a covering formed around an elongated article and said article for forming an abutment against which the cutting means may press such a covering to sever it and for protecting the article enclosed in the covering from damage from the cutting means.

3. A tool for removing coverings from conductors, which comprises a cutting means, a member adapted to be inserted between a covering formed around an elongated article and said article for forming an abutment against which the cutting means may press such a covering to sever it and for protecting the article enclosed in the covering from damage by the cutting means, and means for preventing said member from being inserted more than a predetermined distance between the covering and the article.

4. A tool for removing coverings from conductors, which comprises a cutting means, and a tube associated with the cutting means and adapted to be inserted over the end of a core and under the end of a metallic covering positioned upon said core for cooperating with said cutting means to sever such a covering and for preventing damage to a core enclosed thereby.

5. A tool for removing coverings from conductors, which comprises a cutting means, a tube associated with the cutting means and adapted to be inserted over the end of a core and under the end of a metallic covering positioned upon said core for cooperating with said cutting means to sever such a covering and for preventing damage to the core enclosed thereby, and a stop for preventing the end of the core from projecting into the tube beyond a predetermined distance.

6. A tool for removing coverings from conductors, which comprises a cutting means, a tube associated with the cutting means and adapted to be inserted over the end of a core and under the end of a metallic covering positioned upon said core for cooperating with said cutting means to sever the covering and for preventing damage to the core enclosed thereby, and adjustable means for preventing the end of the core from projecting into the tube beyond a predetermined distance.

7. A plier-like tool for removing coverings from insulated conductors, which comprises a pair of legs having jaws formed thereon, a rod for pivotally mounting the legs, said jaws having a pair of complementary semicircular sockets formed therein and closing stops formed thereon, and also being provided with a pair of smaller semicircular notches formed therein concentric with the sockets, a pair of semicircular inserts having cutting edges projecting therefrom secured in the semicircular sockets, an arm secured transversely to the end of said rod and having a passage formed therethrough, a tube secured in a portion of said passage and concentric with the pairs of semicircular sockets when said jaws are closed, a set screw threaded through a portion of said passage and extending into the tube, and means for adjustably securing the set screw in a predetermined position in said tube.

8. A device for severing coverings from cores, which comprises a pair of relatively movable members, a pair of cutters having semicircular cutting edges formed thereon, means for securing said cutters to said movable members, and a tube associated with the movable members and positioned between said cutting edges, said tube being designed to be inserted between a core and a covering on the core for protecting the core when the covering is severed by the cutters.

9. A device for severing coverings from cores, which comprises a pair of plier-like legs having opposed jaws formed thereon, a pair of semicircular cutting blades secured to said jaws, and a tube secured between said jaws in such a position that the blades touch the periphery thereof when said jaws are closed.

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