

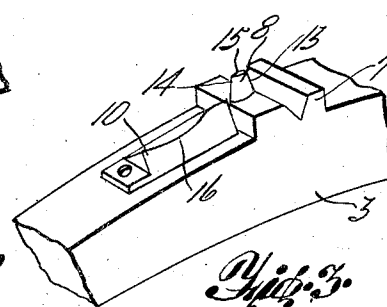
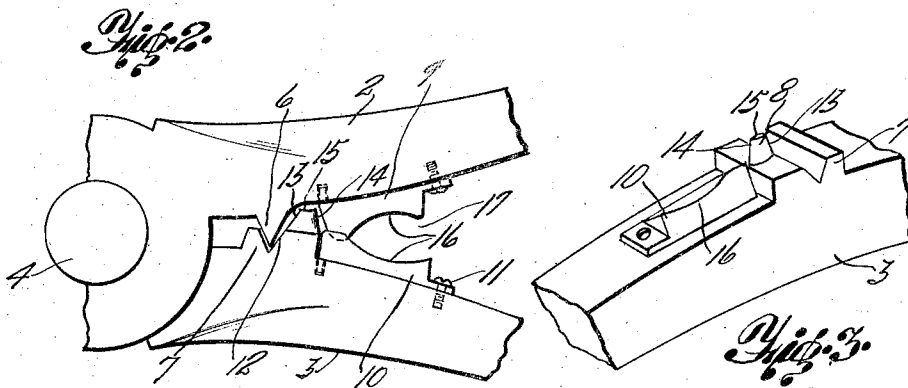
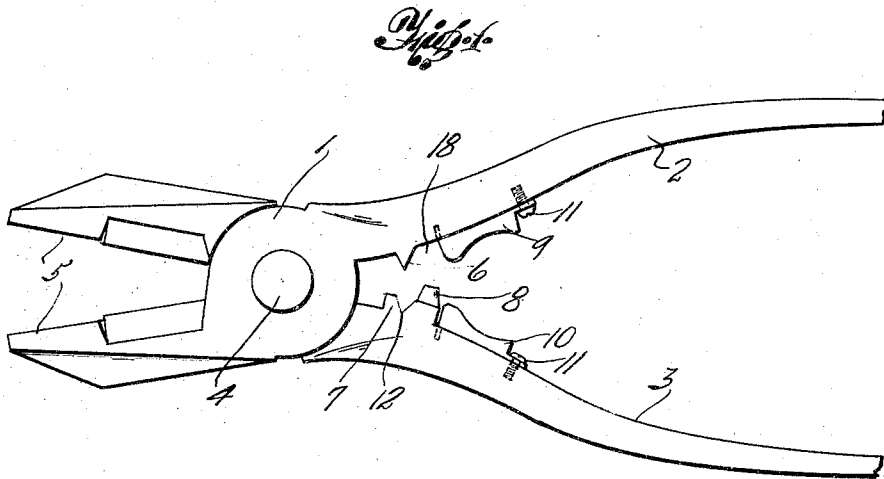
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INSULATION CUTTING AND SCRAPING TOOL

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INSULATION CUTTING AND SCRAPING TOOL

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This invention relates to attachments for or provision of means upon electricians' pliers to enable the convenient and speedy cutting of the insulation covering of an electrical conductor and to also provide means for scraping the wire bright for soldering or for scraping the ends of the conductor for the purpose of making an efficient electrical connection.

The object of the invention is to provide in a simple and practical form complementary or co-acting elements for the inner sides of each of the handles of a pair of pliers of the kind referred to, and which will afford the workman a ready to hand and efficient means for cutting insulation and scraping the wire ends for a connection.

In the drawing

Figure 1 is a side elevation of a pair of electrician's pliers with my attachments incorporated thereupon at the inner sides of the two handles;

Figure 2 is an enlarged detail of the medial portion of the pliers, showing the attachments as shown in Figure 1, the said attachments being also shown upon an enlarged scale;

Figure 3 is an enlarged detail in perspective of the elements of the invention as mounted upon the lower handle of the pliers, as shown in Figure 1.

In combination with a pair of pliers 1, embodying the two handles 2 and 3 pivotally connected at 4, and the jaws 5, the invention comprises complementary and co-acting insulation splitting elements 6 and 7 formed integrally with or mounted upon the inner faces of the handles 2 and 3 respectively, the insulation cutting knife 8 extended from the rear margin of the element 7, and the co-acting wire scraping knives 9 and 10 upon the inner faces of the handles immediately back of the splitting elements 6 and 7. As shown in the drawing, the elements 6 and 7 are formed integrally with the handles, while the elements 9 and 10 are shown as attachments secured in place upon the handles by set screws 11. The arrangement is thus shown for the reason that the scraping elements 9 and 10 wear out rapidly and require

frequent replacement. However, these elements might also be formed integrally if preferred, or the splitting elements 6 and 7 could be also made as separate attachments and secured in place as are the elements 9 and 10.

The insulation splitting elements comprise the solid V-shaped knife 6 upon the handle 2, and the co-acting and complementary grooved element 7 upon the handle 3, these elements having a V-shaped groove 12 into which the knife 6 is adapted to pass as the two handles are pressed together, as shown in Figure 2. It is evident that by spreading the handles and inserting an insulated conductor (not shown) within the groove 12 and then pressing the handles together, the knife 6 will split the insulation of the conductor; and it is further evident that by then drawing the conductor longitudinally through the tool, the said insulation will be split open in a longitudinal direction. The insulation cutting knife 8 extends from the rear margin of the element 7, or at the side of the groove 12, and is disposed perpendicularly relative to said groove. This knife is sharpened at both its front and rear edges 13 and 14, while its top is flat and formed slightly concave as shown at 15. The scraping knives 9 and 10 are similar and are formed with somewhat convex edges 16. They are so formed and mounted upon the inner faces of the outwardly curving handles 2 and 3, that when the said handles are closed together there will still remain between the rear ends of the said knives a sufficient space represented at 17, through which the said conductor may be inserted for the purpose of scraping the wire between the knives. It will be noted that the knife 9 is spaced away from the knife 6, so as to leave an intervening space 18 which forms a sort of conductor receiving recess. Thus after the insulation is split longitudinally for the desired distance, in manner described, by merely moving it back into the recess 18 and then rotating the pliers over the conductor, at the same time pressing the handles together, the same insulation covering is cut around circumferentially so that it may be removed from the

wire. The flat and concaved end 15 prevents the said element 8 from cutting into the wire itself.

5 Thus the elements 6—7 cooperate with the element 8 in providing means in the one tool, for immediately, quickly and conveniently splitting the insulation longitudinally with the former and then in practically the same operation cutting it off circumferentially with the latter. And the aforesaid elements 10 6—7—8 further cooperate with the elements 9 and 10 in providing in the one tool means for both stripping away the insulation from the wire and for scraping the wire or the ends thereof for soldering or for connections. 15 The element 9 further cooperates with the elements 6 and 8 in providing a recess 18 between the two in which the conductor is held under the action of the knife 8.

20 While I have herein described a certain specific manner and method of constructing and assembling the elements of my invention, it is understood that I may vary from the same in minor details, not departing from the spirit of my invention, so as best to construct a practical device for the purpose intended, as defined in the appended claim.

I claim:

30 In a device of the kind described, the combination with a pair of pliers having two handles pivotally connected at one end, of complementary elements upon the inner adjacent faces of the handles for splitting longitudinally the insulation of an electrical conductor, one of the said elements consisting of 35 a V-shaped knife and the other said element having a V-shaped groove for engaging the said V-shaped knife, a cutting knife extended from the latter element and disposed perpendicularly to the said groove, the same being adapted to cut insulation circumferentially, and complementary scraping knives upon the handles, one of the same being spaced from the said V-shaped splitting knife so as to provide a conductor engaging recess adapted to 45 cooperate with the said cutting knife for cutting insulation circumferentially.

In testimony whereof I affix my signature.

50 GEORGE SHERMAN OTT.

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