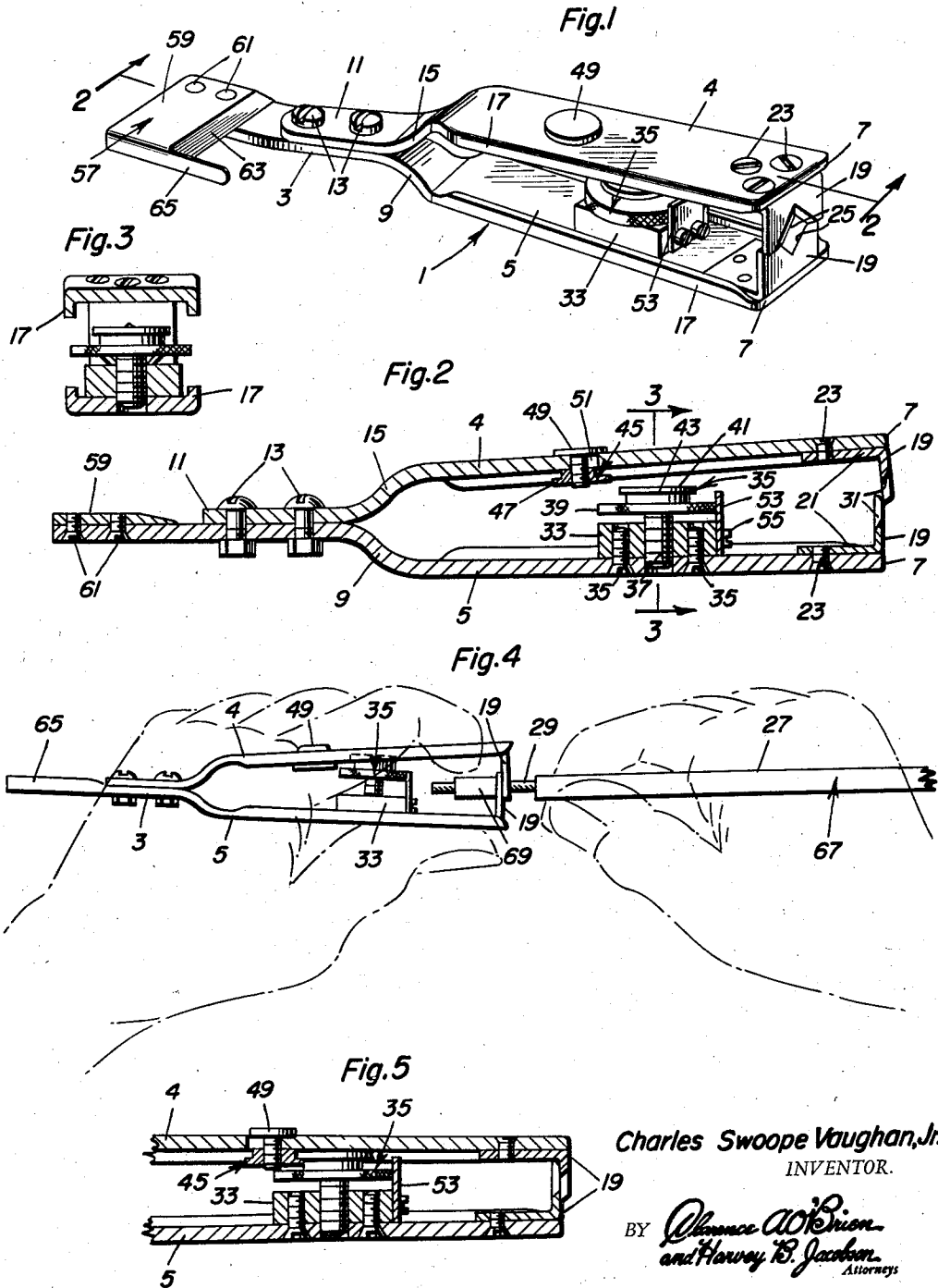


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TWEezer TYPE WIRE STRIPPING TOOL HAVING AN
ADJUSTABLE STOP AND STOP LATCHING MEANS
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TWEEZER TYPE WIRE STRIPPING TOOL HAVING AN ADJUSTABLE STOP AND STOP LATCHING MEANS

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2 Claims. (Cl. 81-9.5)

This invention relates to tools for stripping single conductor cables of insulation sheathing and is designed as an improvement over the cable stripping tool of U.S. Patent No. 2,691,822, dated October 19, 1954.

An important object of this invention is to provide a combination tool for stripping the insulation sheathing off single conductor cables either by means of cross-cutting and stripping knives for cutting rings in the sheathing, or by means of a slitter splitting the sheathing longitudinally.

Another object is to provide a tool for the above purposes embodying cross-cutting and stripping knives for straddling the sheathing of conductor cables of a wide variety of sizes and cutting rings crosswise therein together with settable means of simple reliable form for preventing the knives from cutting into the conductor of such cables.

Still another object is to provide in conjunction with the foregoing, settable means for determining the depth of the cut in the sheathing according to the size of the conductor and which is easily operative by the thumb of a hand grasping the tool while the other hand is free to hold the conductor cable.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a view in perspective of the improved tool in the preferred embodiment thereof;

Figure 2 is an enlarged view in longitudinal section taken on the line 2-2 of Figure 1;

Figure 3 is a view in transverse section taken on the line 3-3 of Figure 2;

Figure 4 is a view in side elevation on a smaller scale illustrating the use of the tool, and

Figure 5 is a fragmentary view in longitudinal section further illustrating the use of the tool.

Referring to the drawing by numerals, the tool of this invention, and which is designated generally by the numeral 1 comprises a flat bar shank 3 from which a pair of rear, flat, resilient handle bars 4, 5 extend in facing spaced apart relation with free rear ends 7. The handle bars 4, 5 are fixed to the shank 3 in oppositely offset relation thereto for flexing toward each other and reaction away from each other into normally slightly diverging relation as shown in Figures 1, 2 and 3. For this purpose one of the handle bars 5 is joined to the shank 3 by a front end bent portion 9, whereas the other handle bar 4 is fixed to said shank with a front end tongue 11 bolted on the shank 3, as at 13, and to which said handle bar 4 is joined by a bent portion 15. In this way the handle bars 4, 5 are secured together at one end thereof. To obviate cutting of a hand grasping the handle bars 4, 5 said bars are provided with longitudinal narrow edge flanges 17. A pair of cutter and stripper blades 19 of rectangular shape are secured by right angled flanges 21 thereon and screws 23 to the handle

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bars 4, 5 at said rear ends 7 at right angles to the handle bars 4, 5 between the pair for overlapping slidably engaging relation in cutting and are provided with opposite V-notch cutting edges 25 for movement toward each other by such movement of the handle bars 4, 5 to straddle the insulation sheathing 27 of a conductor 29 and cut through the sheathing. The cutting edges 25 are beveled, at 31, on remote sides of the cutter blades 19 so that said edges 25 will cut in a substantially common plane.

The settable means is interposed between the handle bars 4, 5 to variably limit movement thereof toward each other and correspondingly limit movement of said cutting edges 25 and comprises the following. A rectangular, flat, block 33 is secured by screws 35 to an intermediate portion of the handle bar 5. A stop disk 35 is interposed between the block 33 and the other handle bar 4 flatwise relative thereto and is provided with an axial stem 37 threaded through said block 33 and said handle bar 5 for screw feed adjustment of the stop disk 35 transversely of the handle bars 4, 5 into different set positions, in which it limits movement of the handle bars 4, 5 toward each other and similarly limits movement of said cutting edges 25.

A circumferential base edge flange 39 on the disk 35 is provided for rotating said disk by a thumb of a hand grasping the handle bars 4, 5 and is knurled to prevent the thumb from slipping off the same.

Means for locking the handle bars 4, 5 together, in compressed position, comprises a second circumferential edge flange 41 on the stop disk 35 forming with the flange 39 a circumferential groove 43 in said disk.

A flanged locking slide 45 is longitudinally slidably mounted on the inner face of the handle bar 4 and is adapted for advance from a retracted position, shown in Figure 2, to hook its flange 47 under the flange 41 to ride in the groove 43. For mounting the slide 45, a threaded headed stud 49 traversing a longitudinal slot 51 in the handle bar 4 is slidable in said slot and threaded into said slide.

A friction brake plate 53 of resilient metal is secured by screws 55 to one side of the block 33 transversely of the stop disk 35 and bears against the knurled flange 39 to frictionally hold the stop disk in set positions.

A sheathing slitter 57, similar to that of the aforesaid patent, is provided on the front end of the shank 3 and comprises a cutter blade 59 bolted, as at 61, to said shank and having a rear cutting edge 63 transverse to said shank 3 for slitting sheathing, and a runner shoe 65 on said blade longitudinal to the shank 3 and adapted to run between the sheathing 27 and a conductor 29 to guide the cutting blade 63 along a cable sheathing for slitting the sheathing longitudinally.

The use and operation of the invention will be readily understood from the following brief description thereof taken in conjunction with the foregoing. The locking slide 45 is normally retracted in the slot 51 to disengage the flange 47 from the flange 41 and move the same out of the groove 43. With the thumb of the hand grasping the handle bars 4, 5, the stop disk 35 is screw fed with the thumb of the hand toward the handle bar 4 whereby to move said handle bars 4, 5 apart and similarly move the cutter blades 19 so that one end of a conductor cable 67 of a selected size to be stripped may be inserted by the other hand between the knives 19 with a slight clearance. The stop disk 35 is then screw fed away from the handle bar 4 until the handle bars 4, 5 may be compressed and moved toward each other to correspondingly move the knives 19 until the cutting edges 31 bite through the sheathing 27 and lightly touch the conductor 29, as shown, for instance, in Figure 4.

Now, with the hand levers 4, 5 thus depressed, the tool may be rotated to cut a cross ring into sheathing 27 to separate a length of the sheathing from the remainder and then pulled along the conductor cable 67 to pull the length 69 off the conductor 29.

The slitter 57 may be used when desired to slit the length 69 from a cut ring in the sheathing, if desired. The locking slide may be advanced to lock the flange 47 under the flange 41 to lock the handle bars 4, 5 in compressed or partly closed position and hold a setting of the tools while the slitter 57 is being used. In this connection the groove 43 is slightly wider than the thickness of the flange 47 so that the tool may be locked in approximate cutting and stripping position, as shown in Figure 5, when the slitter 57 is being used, whereby to approximately retain a setting of the tool while the slitter 57 is being used and to facilitate entering the flange 47 in the groove 43.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A tool for stripping insulation sheathing from a conductor of a conductor cable comprising a pair of opposed spaced apart handle bars connected together at one end, said handle bars being resilient for compressing them toward each other, a pair of transverse cutter blades between said handle bars fixed thereto transversely thereof and having opposite coacting V-shaped cutting edges for straddling a cable sheathing, said tool being operated in response to compression of and rotation of said handle bars to cut a ring transversely in said sheathing to separate a portion of the sheathing from the remainder for stripping from said conductor by said blades by pulling said blades along said cable, settable screw feed stop means on one handle bar between said pair of handle bars for limiting compression of the handle bars whereby

to prevent said blades from cutting into a conductor, and means on the other handle bar coacting with said stop means for locking said handle bars in compressed position, said position being limited by said stop means, said last named means comprising a slide on the other handle bar lockably engageable with said stop means.

2. A tool for stripping insulation sheathing from a conductor of a conductor cable comprising a pair of opposed spaced apart handle bars connected together at one end, said handle bars being resilient for compressing them toward each other, a pair of transverse cutter blades between said handle bars fixed thereto transversely thereof and having opposite coacting V-shaped cutting edges for straddling a cable sheathing, said tool being operated in response to compression of and rotation of said handle bars to cut a ring transversely in said sheathing to separate a portion of the sheathing from the remainder for stripping from said conductor by said blades by pulling said blades along said cable, settable screw feed stop means on one handle bar between said pair of handle bars for limiting compression of the handle bars whereby to prevent said blades from cutting into a conductor, and means on the other handle bar coacting with said stop means for locking said handle bars in compressed position, said position being limited by said stop means, said stop means including a block mounted on one handle bar, a stop disk having a stem threaded into said block for screw feed setting of said disk, and a resilient plate mounted on said block and extending upwardly alongside the disk with the surface of the plate bearing against the periphery of the disk thereby frictionally retaining the stop disk in set position.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 14,169	Aaron	July 25, 1916
1,685,977	Bollerman	Oct. 2, 1928
2,451,463	Zimmermann	Oct. 19, 1948
2,691,822	Vaughn	Oct. 19, 1954
2,787,177	Frye	Apr. 2, 1957

FOREIGN PATENTS

740,874	France	Feb. 2, 1933
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