UNITED STATES PATENT OFFICE

2,678,491

SLEEVE TYPE CABLE CUTTING DEVICE

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Application February 13, 1953, Serial No. 336,696

2 Claims. (Cl. 30—92)

This invention relates to a cutting device and more particularly to a tool for cutting electrical cables and the like, and it consists in the constructions, arrangements and combinations herein described and claimed.

It is the cardinal object of the invention to provide a cable cutting device wherein the cable is positively gripped at points opposite the travel of a cutting blade so that all strands constituting the cable will be securely held against displacement, and thus insure a clean severance of the cable.

More specifically, it is an object of the invention to provide a cable cutting tool wherein a pair of cylindrical housing is employed, hingedly connected together to permit accommodation of the cable and including means between the two parts for clamping the housing upon the cable, the interior of the two part housing having a reduced diameter, the lower part of the housing having a circumferential slot formed therein located so as to divide the reduced diameter thereof, a cutting blade being supported by the lower part of the housing being adjustable through the slot to a point to reach the longitudinal axis of the housing, and said tool further having a handle for rotating the tool circumferentially of the cable, said handle further providing the means for adjusting the cutting position of the cutter blade.

Additional objects, advantages and features of invention will be apparent from the following description, considered in conjunction with the accompanying drawing, wherein

Figure 1 is an end elevation of the cable cutting tool.

Figure 2 is a vertical section taken on the line 2—2 of Figure 1.

Figure 3 is a top plan view of the tool, and

Figure 4 is a sectional view on the line 4—4 of Figure 2.

There is illustrated a cable cutting tool generally indicated by the reference character 10 comprising an elongated cylindrical housing defined by a lower semi-cylindrical section 11 and an upper semi-cylindrical section 12, the sections being hingedly connected together along a longitudinal edge as at 13. The opposite longitudinal edges of the sections 11 and 12 have cooperating clamping members 14 for securing the tool upon a cable.

As best seen in Figure 2, the interior surface of the sections 11 and 12 are formed with semi-cylindrical ribs or beads 15 and 16 respectively, forming a reduced diameter for a purpose to be presently explained.

The lower section 11 is formed with a circumferential slot 17 extending partly therearound, located between the ribs or beads 15 and 16.

A casting 18 is employed for mounting a cutting blade 19 and in the present instance comprises oppositely disposed arms 20 having a semi-circular contour forming a seat for the lower section 11, the arms being apertured for reception of bolts 21 which are threadedly engaged in tapped openings of the lower section 11.

The casting 16 is of elongated rectangular form having an opening 22 next adjacent the lower section 11 and a wall 23 at the lower end thereof defining a passage 24 disposed at right angles to the section 11. Within the passage 24 ribs 25 are formed for guiding the sliding movement of a cradle 26. The cradle 26 mounts a rotatable shaft 27, the latter having the circular cutter blade 19 secured thereto as at 23. It will be noted that the shaft 27 extends in a plane longitudinally with respect to the sections 11 and 12 and that the blade 19 is positioned at right angles thereto so that the blade 19 may pass through the slot 17 of the lower section 11.

The wall 23 of the casting 18 is formed with a medial threaded opening 29 to receive the threaded end 30 of a handle 31. The inner end of the threaded portion 30 of the handle contacts a bottom wall 32 of the cradle so that by rotating the handle in one direction the blade 26 will be raised through the passage 24 and move the blade 19 through the slot 17, which movement is limited to the medial longitudinal axis of the cable; while rotation of the handle 31 in the opposite direction, the cradle will be allowed to move downwardly by action of gravity.

The description of the operation of the tool will be confined to the severing of electrical cable of the multiple strand type, although the tool is not so limited.

In prior cable cutting tools considerable difficulty has been encountered when severing cable of the multiple strand type in that when the first few strands are severed, the severed ends become displaced to one side or the other of the cutting blade, due to the absence of proper gripping action on said ends, the severed ends causing a binding action upon the blade. This difficulty is overcome in the present invention, by reason of the pressure exerted upon the strands by the ribs or beads 15 and 16.

In use of the tool, the handle 31 will be rotated in a direction to lower the cradle 26 to its lowermost position, which will also lower the blade 19 downwardly through the slot 17. With the top section in open position, the lower section 11 is
placed upon the cable and the top section 12 is then swung into closed position and secured to the lower section by the clamping members 14. As the sections 11 and 12 are drawn together, the beads or ribs 15 and 16 will firmly grip the cable at points upon opposite sides of the line of travel of the blade 18. The handle 31 is now rotated to raise the cradle and cutting blade 18 so that the blade may pass through the slot 17 into engagement with the sheathing of the cable. The tool is then rotated circumferentially around the cable and since the blade contacts the sheathing, a circumferential cut will be made, the blade 18 being advanced into cutting engagement with the strands of the cable by merely rotating the handle 31 in the proper direction. When the cut has been completed, the top section 12 may be released to remove the severed cable.

It will be understood that the device may be employed to merely sever the sheathing by proper adjustment of the blade 18, which will be helpful in removing a portion of the sheathing to bare the wire strands of the cable with a knife or other instrument, after the cable is removed from the tool.

While I have shown and specifically described the invention, this is by way of illustration only, and I consider as my own all such modifications in construction as fairly fall within the scope of the appended claims.

I claim:

1. A cable cutting tool comprising a housing having a cylindrical interior adapted to encompass a cable, the interior wall of said housing having a pair of spaced annular members forming a reduced diameter, said housing having a slot formed therein extending partitionly around said housing and positioned between said annular members, a casting on said housing having a passage formed therein, a cradle slidably mounted in said passage, a cutting blade carried by said cradle in alignment with said slot, and a handle member threadedly engaged in said casting in operative engagement with said cradle to move said blade through said slot and to rotate said housing circumferentially about said cable.

2. A cable cutting tool comprising a housing defined by a pair of elongated sections having a semi-cylindrical interior hingedly connected together along one longitudinal edge, clamping means along the other longitudinal edge to draw the sections together upon an interposed cable, the interior wall of each of said sections having a pair of spaced annular members in alignment with each other forming a reduced interior diameter, one of said sections having a slot formed therein extending partially around said section and positioned between said annular members of said section, a casting secured to said last named section and having a passage extending at right angles to said section, said casting having an open end next adjacent said section, and a wall at the opposite end, a cradle slidably mounted in the passage, a revolving shaft carried by said cradle, a circular cutting blade fixed to said shaft and aligned with the slot of said section, the wall of said casting having a medially threaded opening formed therein, a handle member threadedly engaged in said opening and being operatively connected with said cradle to move said cutting blade through said slot and to also rotate said housing circumferentially about an interposed cable.

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