

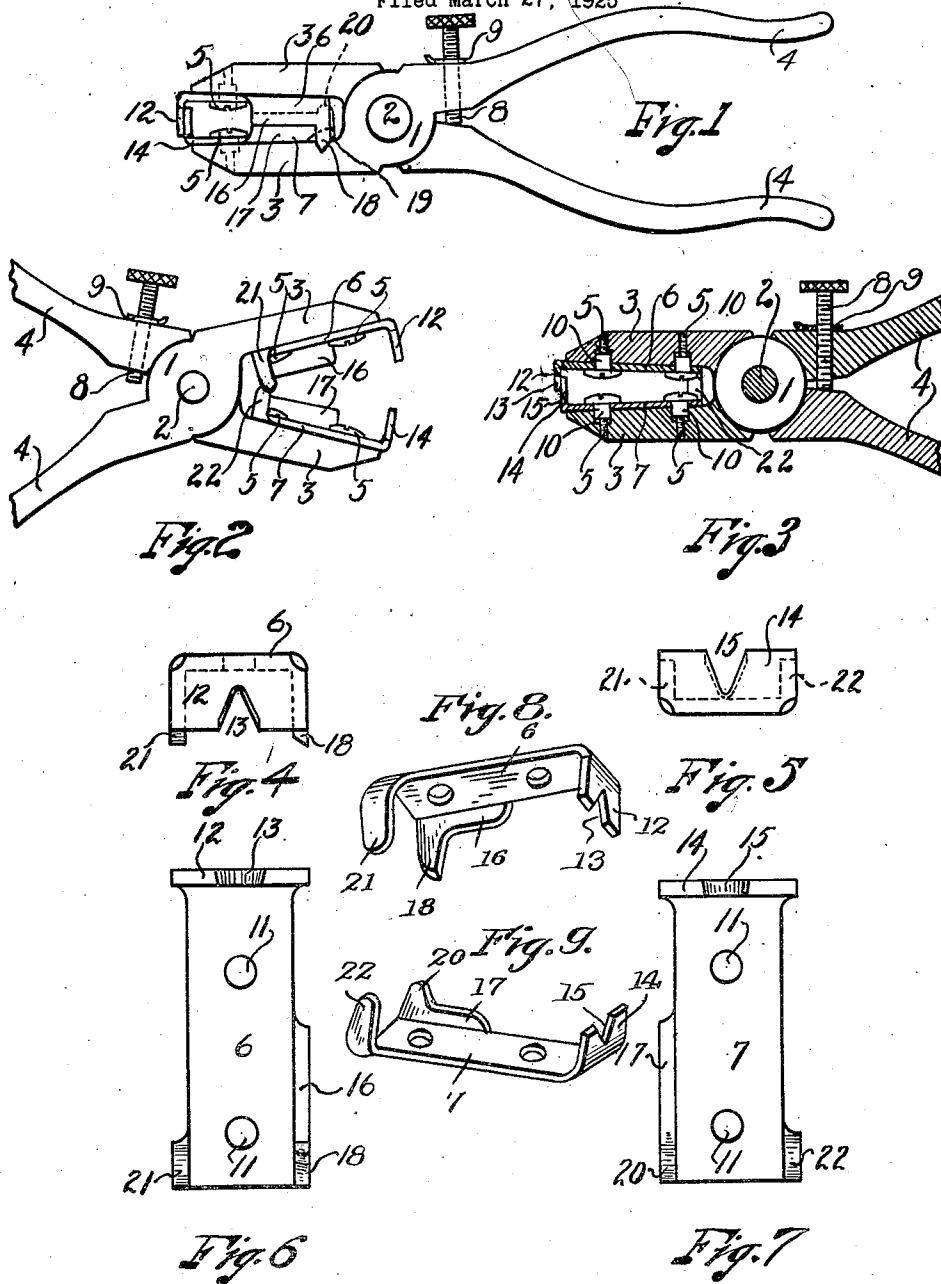
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A. LAUBSCHER

CORD STRIPPER

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INVENTOR.
August Laubscher,
BY
Frank A. Cutter,
ATTORNEY.

UNITED STATES PATENT OFFICE.

AUGUST LAUBSCHER, OF SPRINGFIELD, MASSACHUSETTS.

CORD STRIPPER.

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My invention relates to improvements in cutting and stripping pliers for insulated wire, and is in the nature of an improvement of the pliers covered by United States Letters Patent, No. 1,107,210, the present invention consisting essentially of pivotally connected jaw and handle members provided with an adjusting screw, and a pair of jaw plates removably attached to the jaws of said members, and bent and cut to form cutting and stripping blades at their front ends, cutting blades with interengaging projections on one side adjacent to their rear ends, and interengaging projections on the other side adjacent to their rear ends, one of said projections being sharpened to form a slitter, together with such other parts and members as may be necessary or desirable in order to render the tool complete and serviceable in every respect, all as hereinafter set forth.

The primary object of my invention is to produce an implement or tool for cutting and stripping electric cord and wire without the use of a knife, such device being comparatively simple and inexpensive to manufacture, yet strong and durable, and capable of having repaired or replaced any part that becomes broken or damaged.

With this cord stripper a clean, shear cut, which leaves the fabric covering with no loose threads or ragged edges, is made, and double or reinforced cord as well as ordinary cord can be stripped with this tool.

By properly adjusting the stripper, liability of cutting the wire or any of the wire strands enclosed in the covering is obviated; and there is no danger of cutting the fingers of the operator.

The shearing cutters with which the tool is equipped make of the same a pair of powerful cutting pliers.

Other objects and advantages will appear in the course of the following description.

I attain the objects and secure the advantages of my invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front side elevation of a cord stripper which embodies a practical form of my invention, the jaws being closed; Fig. 2, a back side elevation of the operating parts of said stripper, the jaws being open; Fig. 3, a central, longitudinal, vertical

section through the operating part of the stripper as disposed in the first view; Fig. 4, an enlarged, front end elevation of the upper jaw plate; Fig. 5, an enlarged, front elevation of the lower jaw plate; Fig. 6, an enlarged, bottom plan of said upper plate; Fig. 7, an enlarged, top plan of said lower plate; Fig. 8, a perspective view of the upper jaw plate; and Fig. 9, a perspective view of the lower jaw plate.

Similar reference characters designate similar parts throughout the several views.

This cord stripper comprises a pair of hubs 1 pivotally connected at 2, a pair of jaws 3, and a pair of handles 4, all of usual and well-known construction, except that said jaws are spaced somewhat farther apart than is customary, and each has therein two passages to receive a pair of dowel screws 5. There are upper and lower jaw plates 6 and 7, respectively, which are attached to the jaws 3 by means of the screws 5, the upper plate being attached to the under side of the upper jaw and the lower plate being attached to the upper side of the lower jaw. An adjusting screw 8 is tapped into and through the upper handle 4 adjacent to the hub 1 which is interposed between said handle and the lower jaw 3, and is adapted at its inner end to bear on the lower handle 4 at a point adjacent to the hub 1 which is interposed between said lower handle and the upper jaw 3. The screw 8 has a lock-nut 9 thereon between the head of said screw and the upper handle 4.

Each of the screws 5 has an enlarged dowel part 10 between the head and threaded part of the screw, and said dowel is received in an opening 11 in one of the jaw plates 6 or 7, and in an enlarged part of one of the aforesaid passages provided in the jaws 3 to receive said screws. There are two openings 11 in the longitudinal center of each of the plates 6 and 7, and said openings are the proper distance apart and the necessary distances from the ends of the plate to enable the latter to be positioned on either jaw with the axes of said openings in line with the axes of the two passages for the screws in said jaw. The outer and smaller (in diameter) portions of the passages in the jaws 3 are tapped to receive the threaded parts of the screws 5.

In case the cutting parts of either or both

of the jaw plates 6 and 7 need to be sharpened, or any of the parts of such plates becomes broken or otherwise injured, the screws 5 are removed and the plates taken out. The plate or plates are then reground or repaired, as may be necessary, and afterwards returned to place on and secured again to the jaws 3 by means of the screws 5. Or a new plate or plates may be substituted for the old and secured with the screws 5 to the jaws 3. Provision is thus made for readily repairing the tool at small expense. As is seen, the parts are so constructed that the jaw plates 6 and 7 are interchangeable.

The front terminal of the upper jaw plate 6 is bent downwardly to form a cutting and stripping blade 12, in the center of which is a V-shaped notch 13; and the front terminal of the lower jaw plate 7 is bent upwardly to form a cutting and stripping blade 14, in the center of which is a notch 15. The blades 12 and 14 are arcuate with their radii extending from the center of the pivot 2. The notches 13 and 15 open through the bottom and top edges, respectively, of the blades 12 and 14. The bottom edges of the blade 12 and the top edges of the blade 14, both sides of the notches therein, are blunt, but the edges of the notch 13 are beveled in front, and the edges of the notch 15 are beveled behind. The blades 12 and 14 are set so that their blunt edges shear by each other when the jaws 3 are closed, the amount of the overlap being determined by the screw 8. The edges of the blades 12 and 14, through which the notches 13 and 15 open, are made blunt in order to strengthen and stiffen said blades, and obviate liability of the same breaking when in use. These edges are not used for cutting purposes.

With the blades 12 and 14 the covering or insulation is cut and stripped from the wire or conductor, and this is done without injuring the latter, provided the screw 8 be properly set. In the cutting and stripping operations, the cord is received in the notches 13 and 15, while the jaws 3 are open, said jaws are then closed to cut crosswise through the insulation all around the same and clear in to the conductor, and finally the insulation is stripped from the conductor.

On corresponding sides of the jaw plates 6 and 7 are two cutting blades 16 and 17, respectively. Both of these blades extend forwardly from the rear ends of the plates 6 and 7, and the blade 16 is adapted to close down outside of the blade 17 so that their cutting edges shear by each other when the jaws 3 are closed. With these blades may be cut either covered or bare wire, and they might in some case be used for cutting a slit or slits lengthwise in the insulation. Depending from the blade 16 adjacent to its rear end is a projection that is sharpened

at its lower end and forms a slit 18. That portion of the blade 17 which is immediately behind or inside of the slit 18, when the jaws are closed, is cut away, as shown at 19 in Fig. 1, to leave a little more clearance between said slit and the adjacent part of said blade. A projection or lug 20 is formed on top of the blade 17, adjacent to the rear end thereof, to cooperate with the slit 18 in assisting to maintain the jaws 3 and the plates 6 and 7 in alinement at all times. The slit 18 and the projection 20 are of sufficient lengths to keep them in engagement even when the jaws 3 are opened to their fullest extent. Supplementing the stiffening, guiding, and alining parts, to which reference has just been made, are projections 21 and 22 on the opposite sides of the plates 6 and 7, said projection 21 extending downwardly from said first-named plate and said extension 22 extending upwardly from said second-named plate, both being adjacent to the rear ends of the plates. The projections 21 and 22 are of such lengths that they are always in contact with each other.

As the jaws 3 are opened and closed the projections 20 and 22 move up and down between and in contact with the slit 18 and the projection 21, and by such means the screws 10 are augmented in their function of retaining the plates 6 and 7 in place. In other words the projecting and interlocking or interengaging parts adjacent to the rear ends of the plates 6 and 7 materially assist in holding said plates against lateral movement, and add materially to the rigidity and stability of the jaws and jaw members. During some of the cutting operations, the cutters and their supporting parts are subjected to a considerable strain, and often to uneven strains, which would tend to bring about displacement of the jaw plates and injury to the tool, were it not for the presence of the interengaging projections, including the slit 18.

The slit 18 is for the purpose of cutting longitudinally into the cover of double or reinforced cord or cable, in order that the cord or cords within may be exposed and access had thereto. In using the stripper for the purpose of slitting a cord or cable, said stripper is tightly grasped in one hand by the handles 4 and held with the jaws closed, and the sharp end of the slit 18 is forced into the cable, and then, while the stripper is still held in and grasped by said hand, the cable is grasped in the other hand, and the stripper with said sharp end of the slit buried in the cable is drawn lengthwise of the latter. In this manner a slit of the desired length is cut in the cable, which enables said cable to be opened and thus give access to its contents. This is an important and valuable feature of my in-

vention, because of the facility afforded for cutting into cords or cables that are too large to be operated on effectually with the other cutting elements of the tool, and which
5 can only with difficulty be cut into with a knife.

The jaw plates 6 and 7 are, of course, of a size to be received to advantage on the jaws 3, and in the present example they
10 project slightly beyond said jaws at their front ends. The jaws 3 are not and need not be recessed to receive the plates.

The barrels 10 of the screws 5 being of sufficient length, as they are, to extend
15 through the plates 6 and 7 and penetrate some distance into the jaws 3, really constitute dowels and afford means for retaining the plates 6 and 7 rigidly and immovably in place on the jaws 3, hence said screws are
20 termed dowel screws.

When the tool is to be used for cutting and stripping the insulation or covering from the wire or conductor, by means of the notched blades 12 and 14, it is first
25 necessary to loosen the lock-nut 9 on the screw 8, adjust the latter up or down to the extent required to check the closing movement of the jaws 3 at just the right point to leave an opening between the apexes
30 of the notches 13 and 15 of approximately the same size as said conductor within said covering, and screw said lock-nut down tightly again against the upper handle 4, to prevent accidental displacement of the ad-
35 justing screw. Now the stripper, while held in one hand, is applied to the insulation a reasonable distance from one end thereof and closed, with the notched portions of the blades 12 and 14 on and around said in-
40 sulation, which results in severing the latter, and then, while holding the cord in the other hand, the part of the insulation thus severed is stripped off over the adjacent end of the conductor, by drawing the strip-
45 per, still closed, in that direction.

For cutting and stripping insulation, this tool is not only adaptable to a single wire conductor, but as well to a conductor made up of a plurality of fine wires, since it is
50 capable of being set so as not to cut a single wire in said last-named conductor.

It is conceivable that some change may be made in the shape, size, construction, and arrangement of some or all of the parts of

this cord stripper, without departing from 55 the spirit of my invention or exceeding the scope of what is claimed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a cord stripper, 60 with a pair of pivotally connected jaws, of plates secured to adjacent surfaces of said jaws, and having at their front ends notched cutting blades, and at their rear ends on both sides interengaging projecting members 65 to assist in maintaining said jaws and plates in alinement.

2. The combination, in a cord stripper, with a pair of pivotally connected jaws, of plates rigidly connected with said jaws on 70 adjacent faces thereof, and having at their front ends notched cutting blades, on one side additional cutting blades, and at their rear ends on both sides interengaging pro- 75 jecting members to assist in maintaining said jaws and plates in alinement, two of said projecting members extending from said side blades.

3. The combination, in a cord stripper, with a pair of pivotally connected jaws, of 80 plates rigidly secured to adjacent surfaces of said jaws, and having at their front ends notched cutting blades, and at their rear ends interengaging projections, one of said projections at its free end being sharpened 85 and standing clear of other parts of the stripper to form a slit operated as and for the purpose described.

4. In a cord stripper, a pair of pivotally 90 connected jaws, plates rigidly secured to said jaws, said plates having at their front ends notched blades adapted to cut cross- wise the covering of an insulated wire, by the act of closing said blades onto said in- 95 sulated wire with the latter in the notched portions thereof, and one of said blades having on one side a projecting member which is sharpened at its free terminal to form a slit capable of being forced, with the thumb and fingers, into the covering of an 100 insulated wire, which last-named covering said blades are unadapted to cut, and of being forcibly drawn by hand lengthwise in such last-named covering, whereby the lat- 105 ter is slit open and access afforded to the contents of the same which can then be acted on by said blades.

AUGUST LAUBSCHER.