H. A. ADAMS.

INSULATION CUTTING PLIERS.

APPLICATION FILED MAR. 27, 1909.

964,600. Patented July 19, 1910.

Fig. 1.

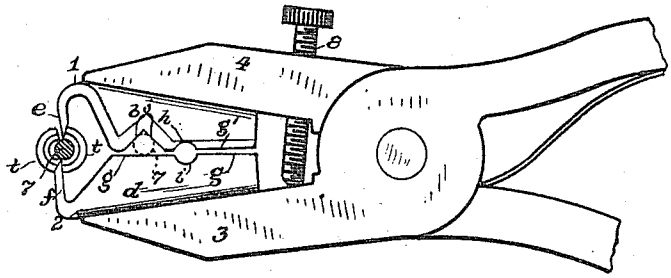


Fig. 2.

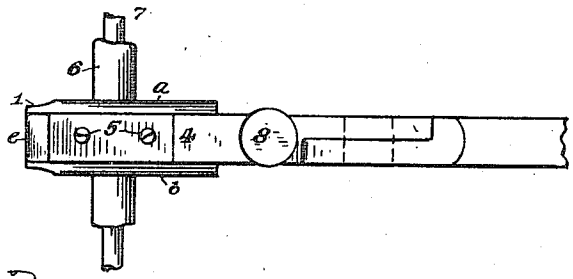


Fig. 3.

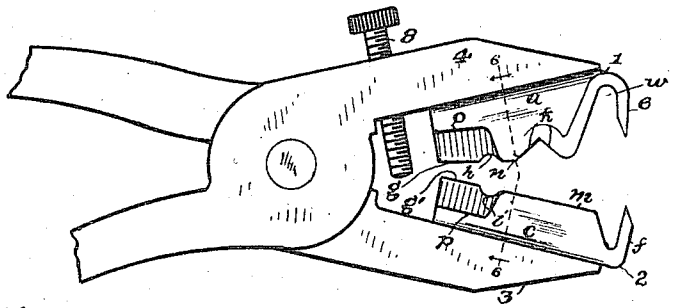


Fig. 6.

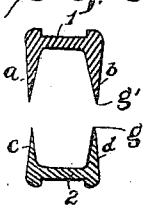


Fig. 4.

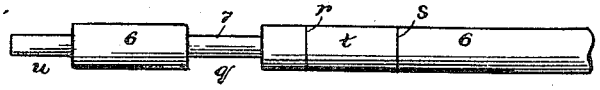
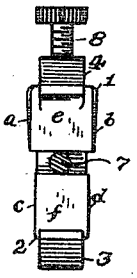


Fig. 5.



WITNESSES

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HARRY A. ADAMS, OF EAST HARTFORD, CONNECTICUT.

INSULATION-CUTTING PLIERS.

964,600. Specification of Letters Patent. Patented July 19, 1910.

Application filed March 27, 1909. Serial No. 486,141.

To all whom it may concern:

Be it known that I, HARRY A. ADAMS, a citizen of the United States, and a resident of East Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Insulation-Cutting Pliers, of which the following is a specification.

My invention relates to an improved insulation cutting plier, and has for its object the cutting of the insulating material of an electric wire, without severing the wire as well as severing the wire when required.

To enable others to understand my invention, reference is had to the accompanying drawings, in which:

Figure 1 represents a broken view of a pair of pliers equipped with my improved insulator cutter, also a sectional view of the wire and end view of the insulating material and manner of removing a section of the same; Fig. 2 is a broken upper plan view of the plier, showing a section of wire and insulating material therein, in the act of cutting a section of the insulating material from the wire; Fig. 3 is a broken reverse view of the pliers opened; Fig. 4 is a section of insulated wire; Fig. 5 is an end elevation of the pliers and sectional view of the wire therein; and Fig. 6 is a transverse sectional view of the cutter sections on line 6 of Fig. 3.

The cutter sections 1 and 2 are removably secured to the plier jaws 3 and 4 in any convenient manner, or they may be made an integral part thereof. In the present instance they are secured by screws, two of which, 5, are shown at Fig. 2 as securing the upper section, the lower section being secured in the same manner to the lower jaw. The upper section has the side cutters or members *a b* and the lower section the side cutters *c d*, the side cutters of each section being practically parallel to each other. *e f* are the end cutters of the sections and are integral therewith and with the side cutters. These side cutters *b d* have, in connection with their straight cutting edges *g g'*, the semi-circular depressions *h i* adapted for scraping exposed portions of wire in order to form a good contact.

j k are indented cutting edges oppositely located in the sides *a b* of the upper section adapted to sever the insulation 6 on the wire 7. All of the straight edges *g g' m n* are also cutting edges both for the wire and insulation; but the clearance depressions *o p* of the sides *a c* are not, which depressions form a clearance for the insulation when it projects beyond the cutting edges *g g'*.

To remove a section of the insulation and expose the wire in the body thereof, as shown at *q*, Fig. 4, the screw 8 is adjusted to bring the cutting edges of the end cutters *e f* in contact with the wire as shown at Fig. 5, which will also locate the angular cutting edges of the upper section a corresponding distance from the straight cutting edges of the lower section as represented by the dotted circle, representing the wire, shown at Fig. 1. When the pliers have thus been set, the insulated wire is laterally inserted in the pliers—as shown at Fig. 2—and within the embrace of the angularly indented cutting edges *j k* of the upper section, and the straight cutting edges of the lower section. Then, by a slight pressure and circular movement of the pliers, the insulation is cut down to the wire represented by the lines *r s*, at Fig. 4. Then the pliers are turned around and the section *t* of the insulation is split longitudinally and removed by the end cutters as shown at Fig. 1. The pliers are then opened and the edges of the semi-circular recess *h i* are brought in contact with this exposed section of the wire and the pliers are moved laterally back and forth to scrape the wire and thus expose a clean contact surface.

To remove a section of the insulation at the end, as shown at *u*, Fig. 4, the screw is set to bring the cutting edges *g g'* in contact with the wire and the insulation is then cut down to the wire by means of these cutting edges, and the severed insulation is either stripped off by a side pressure of the closed pliers, or it may be split and removed by the end cutters as previously explained. The sides of the upper and lower sections pass by each other so as to give a shearing cut when the wire itself is severed, for which purpose the screw is turned back to enable the plier jaws to close sufficiently to effect such severance. It will be understood that the wire can be severed equally as well by any of the cutting edges previously described for cutting the insulation by simply adjusting the screw 8.

The semi-circular depression *w* at the end of section 1, can be made fully as large as the diameter of the insulation to avoid any tendency of the severed insulated sections lodging therein.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is—

1. The combination with plier jaws, of opposed cutter sections, each section having side cutting members and an end cutting member integral therewith.

2. The combination with plier jaws, of opposed cutter sections, each section having side cutting members and an end cutting member integral therewith, and means for removably securing said sections to the jaws.

3. In a device of the character described, opposed cutter sections, movable supports therefor, each section having parallel side cutting members, the side cutting members of one section having indented cutting edges adapted to have a shearing cut with the straight cutting members of the opposite section, each section having end cutting members, and a screw for adjusting the distance between the cutting edges of the sections so as to cut the insulation of an electric wire without cutting the wire, for the purpose set forth.

4. In a device of the character described, opposed cutter sections, a movable support therefor, each section having parallel cutting members integral therewith, the cutting members of one section having cutting indentations, the cutting members of the opposite section having straight cutting edges, each section having end cutting members integral therewith, the cutting members of each section adapted to effect a shearing cut, the rear portion of one of the straight edge cutting members cut away to form a clearance for the insulation, and a screw for adjusting the distance between the cutting edges of the sections so as to cut the insulation of an electric wire without cutting the wire, for the purpose set forth.

Signed at East Hartford in the county of Hartford and State of Connecticut this 12" day of March, A. D. 1909.

HARRY A. ADAMS.

Witnesses:
JESSIE S. GOODWIN,
LAURA GLAZIER.