

J. CRONIN.
 TOOL FOR MANIPULATING WIRES ON HIGH VOLTAGE CIRCUITS.
 APPLICATION FILED MAY 13, 1912.

1,045,679.

Patented Nov. 26, 1912.

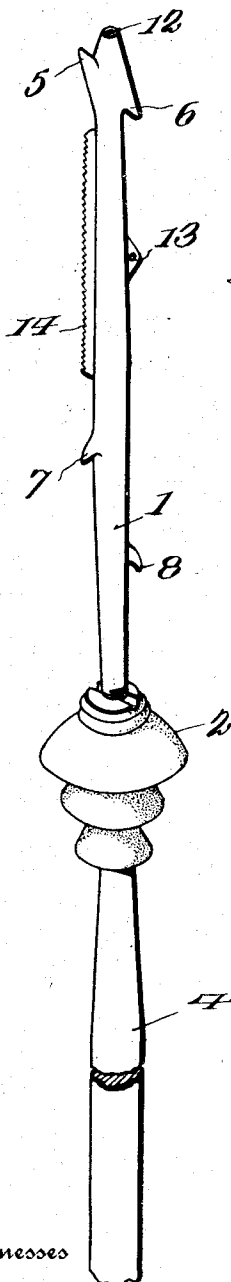


Fig. 1.

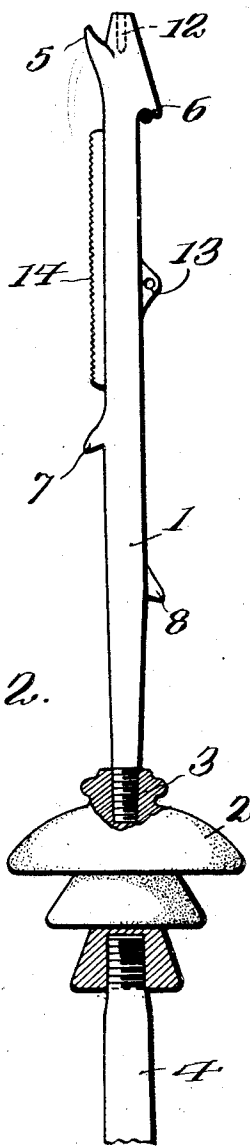


Fig. 2.

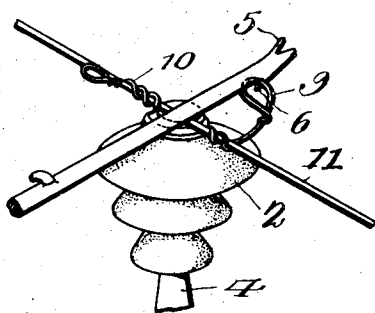


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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TOOL FOR MANIPULATING WIRES ON HIGH-VOLTAGE CIRCUITS.

1,045,679.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed May 13, 1912. Serial No. 697,089.

To all whom it may concern:

Be it known that I, JEREMIAH CRONIN, a citizen of the United States, residing at Wapakoneta, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Tools for Manipulating Wires on High-Voltage Circuits, of which the following is a specification.

This invention relates more particularly to a special tool designed for use in manipulating insulator tie-wires on high potential transmission lines, while the power is on the line.

According to the commonly prevailing practice, the danger to the workmen, due to the high voltage carried, is too great to permit of changing or manipulating such tie-wires while the power is on the circuit, thus necessitating either waiting until the power is shut off in the ordinary course of events, as at night, or shutting down the power and stopping traffic and other operations dependent on the line. For the purpose of overcoming these difficulties, I have devised a novel form of tie-wire which may be wrapped around the power wire or unwrapped therefrom, while the power is on the circuit. For the purpose of manipulating this improved tie-wire, as well as for the purpose of removing an old type of tie-wire, with perfect safety to the workmen, I have devised the tool constituting the subject of the present application.

In order to more fully describe this invention, reference will be had to the accompanying drawing, wherein—

Figure 1 represents a perspective view of one form of my improved tool; Fig. 2 is a side elevation thereof, partly in section; and Fig. 3 is a perspective view showing the said tool in operation as manipulating an insulating tie-wire.

In the form shown in the accompanying drawing, this tool comprises among other parts, a stem 1 which may be of metal or any other desired material, held at one end, by being screwed thereinto, or in any other suitable way, rigidly in an insulator 2, preferably of the high potential petticoat type. This insulator may be one of the usual commercial insulators of this type, in the upper end of which is bored a hole 3 to receive the stem 1. The insulator 2 is carried by a rod or handle 4, the upper end of which is

screwed into, or otherwise rigidly secured in the opening in the bottom of the insulator, in the case in existing form of line-insulating used, being the opening usually occupied by the cross arm pin. The employment of such a type of insulator insures perfect safety to the workmen holding the handle 4 and touching or manipulating a wire in contact with the stem 1, carrying a very high voltage, even in damp weather.

For the purpose of pulling or pushing operations in coiling or uncoiling my improved tie-wire, around or from the power conductor, the stem of this tool is provided with a plurality of spurs 5, 6, 7 and 8, the spur 5 slanting in the direction away from the operator, while the other spurs slant in an opposite direction, the former spur being employed for pushing a wire away from the operator, while the latter spurs are for the purpose of pulling the wire toward the operator.

In Fig. 3, I have shown this tool in the act of operation in connection with my improved tie-wire above referred to, wherein the tool is shown in the act of wrapping one of the ends of the tie-wire around the power wire, the spur 6 being at this time, in use to pull the loop 9 of the tie-wire toward the operator. When he has pulled this loop toward him as far as possible with the tool, he then pushes it in the opposite direction by placing the spur 5 against the loop. He then pulls the loop toward him again, by means of the spur 6 and by repeating this operation, wraps the tie-wire 10 around the power-wire 11, as indicated. The spurs 7 and 8 are merely for the purpose of manipulating the wire closer to the operator than would be convenient by means of the spurs 5 and 6. Obviously, any other desired number and disposition of spurs may be arranged on the stem 1.

It often becomes necessary to untwist one of the old or commonly used forms of tie-wire, from the power wire, in making the repair, in which one of my improved tie-wires is substituted. This old form of tie-wire does not have loops at their ends. Therefore, for the purpose of taking hold of the ends of this old tie-wire and untwisting them from the power-wire, my improved tool is provided with two or more openings 12 and 13. By slipping the end of this old tie wire in either of these openings, it may

be uncoiled or unwrapped from the power wire and insulator.

For the purpose of removing small branches of trees, and other obstacles which may interfere with the manipulation of this tool, I provide the stem 1 with a saw 14, by which these obstacles may be readily removed.

While I have herein described this tool with special relation to its use in connection with the manipulation of tie-wires, it will be understood that the same is susceptible to various other uses in manipulating line wires on high potential transmission circuits.

Having thus fully described my invention, what I claim is:

1. A tool of the class described, comprising a stem having spurs thereon, an insulator on which said stem is mounted, and a rod to which said insulator is secured, the said insulator separating the said stem from said rod.

2. A tool of the class described, comprising a stem having oppositely directed spurs

thereon, an insulator on which said stem is mounted, and a rod to which said insulator is secured, the said insulator separating the said stem from said rod.

3. A tool of the class described, comprising a stem having oppositely directed spurs thereon, a high potential insulator of the petticoat type, on which said stem is mounted, and a rod to which said insulator is secured, the said insulator separating the said stem from said rod.

4. A tool of the class described, comprising a stem having a plurality of oppositely directed spurs thereon, one or more openings in the said stem adapted to receive the ends of wires, a rod forming a handle for said tool, and a high voltage insulator interposed between said stem and handle, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JEREMIAH CRONIN.

Witnesses:

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E. C. RIDDLE.