May 4, 1937. F. C. HOPKINS 2,079,505

TOOL

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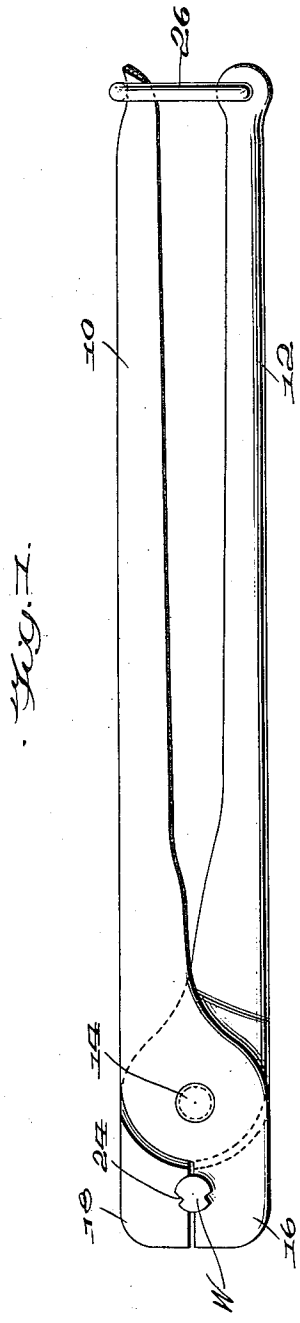

Fig. 1.

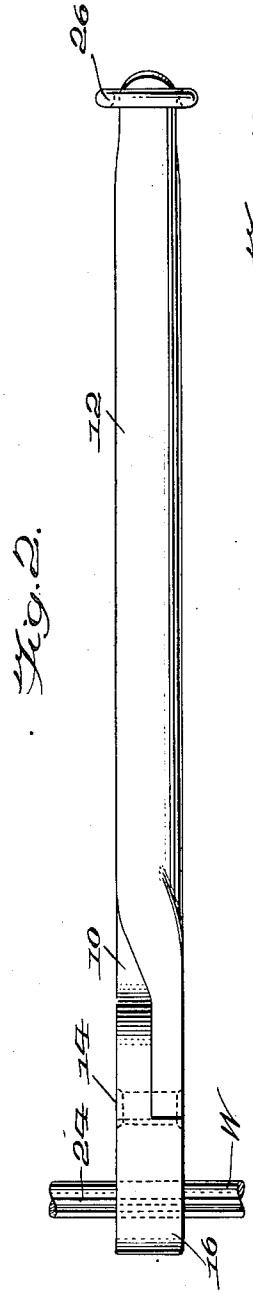

Fig. 2.

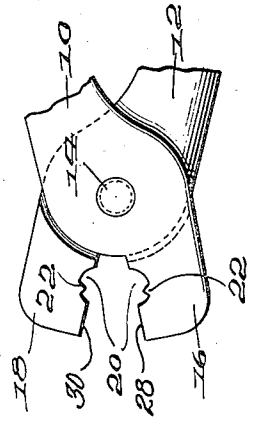

Fig. 3.

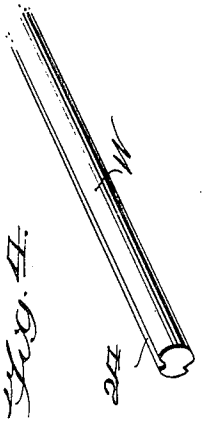

Fig. 4.

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TOOL

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2 Claims. (Cl. 81—49)

This invention relates to an improvement in tools and more particularly to a special tool of the pliers or wrench type, specifically designed to handle grooved wires without slipping or marring the wire.

Electric conducting wire, as used for example in trolley lines, is grooved to receive ears, frogs, switches, circuit breakers, curve assemblies, crossings, and the like, and comes in standard sizes 2/0, 3/0 and 4/0, the most widely used being 2/0. This wire being of relatively soft copper is difficult to handle with conventional tools, the ordinary Stillson wrenches, corrugated pliers and the like having a tendency toward marking or scratching the wire, and the use of such tools therefore being generally forbidden.

Accordingly, it is an object of the present invention to provide a tool which cannot slip, mark or harm the wire, and which will facilitate turning, adjusting or otherwise handling same.

Inasmuch as the particular wire has a very definite cross-sectional configuration, and comes in definite sizes, it is another object of the invention to provide a tool with operating jaws that are shaped to conform to the periphery of the work, both in size and shape. The tool may be made in different sizes to accord with the gage of wire to be handled, or the jaws of a single tool may be extended for this purpose.

In the preferred embodiment illustrated herein, the tool is of the plier type, but by modification of the handle could readily be made in the form of a wrench.

To the attainment of the foregoing and other objects which will appear as the description proceeds, reference may be made to the accompanying sheet of drawings in which:

Fig. 1 is a plan view of the tool, showing the jaws closed on a wire;

Fig. 2 is a side elevation thereof;

Fig. 3 is a fragmentary plan showing the jaws in open position; and

Fig. 4 is a perspective of the type of wire for which the tool is particularly designed.

Referring to the drawing in which like reference numerals designate like parts, the tool comprises a pair of handle members 10 and 12, pivoted together in overlapping relation at 14. These members terminate in jaws 16 and 18, respectively, as in the case of conventional pliers. Each of the jaws is concaved as at 20, and formed with a lateral rib 22, which preferably extends throughout the width or thickness of the jaw. The shape of the concavities and ribs is predetermined and conforms to the exterior configuration of the wire W (Fig. 4), which is grooved as indicated at 24.

A link or clamp 26 may be utilized to hold the handles and jaws together, when in use on the wire.

From the foregoing it will be evident that as the internal shape of the jaws 16 and 18 corresponds to the external configuration of the wire W, and the ribs 22 fit within the grooves 24 thereof, slipping on the wire and gouging or scoring is avoided.

The jaws 16 and 18 terminate at their outer ends in substantially flat, complementary surfaces 28 and 30, respectively, which may be used for the purposes of conventional pliers, functioning as gripping surfaces, if desired. In any event, the inner edge portions of the flattened surfaces form shoulders defining in part, the concavities 20.

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

1. A device of the class described, comprising a pair of members pivotally connected together intermediate their ends, and each including a handle part and a jaw portion, the jaw portion having its inner face concaved and formed with a rib extending transversely of the jaw, the entire length of the concavity, said concavity and rib being shaped to conform to external characteristics of the work, whereby to prevent slipping of the tool on the work when in use.

2. A tool for handling grooved wire, comprising jaws, having substantially flat complementary surfaces adjacent their outer ends, each jaw having a concavity inwardly of its end conforming to the shape of the wire to be handled, and each having a rib extending laterally throughout the concavity, said rib being shaped to mate with a groove in the wire, handles connected to said jaws, and operatively connected to each other, and means to clamp said jaws together when in use on the wire.

FRANCIS C. HOPKINS.