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J. BERETZ

COMBINATION TOOL

Filed April 22, 1926

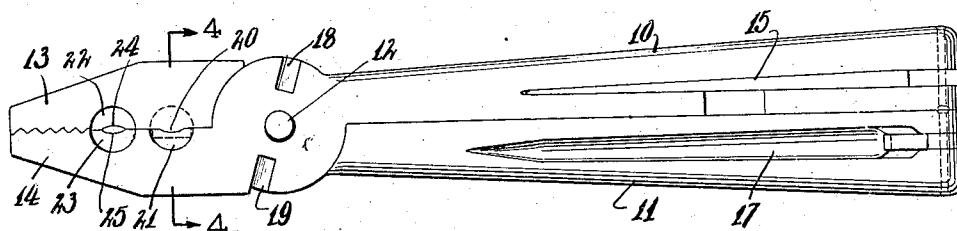


FIG. 1

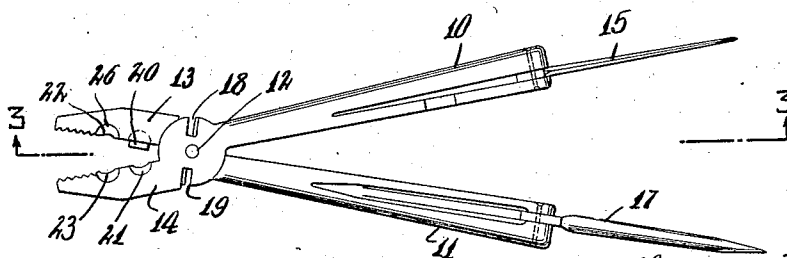


FIG. 2

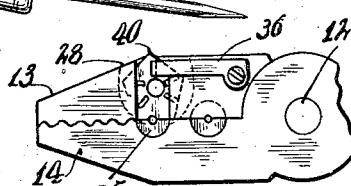


FIG. 5

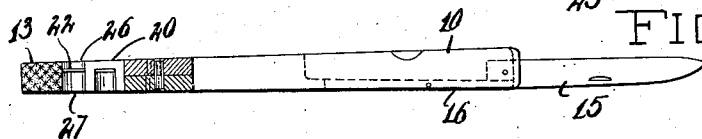


FIG. 3

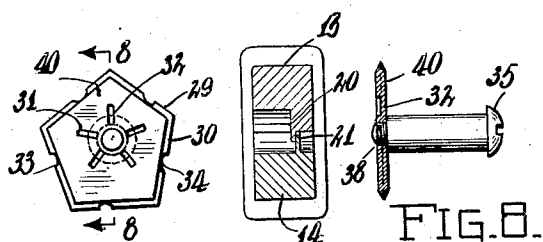


FIG. 7. FIG. 4

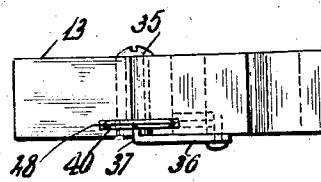


FIG. 6

INVENTOR
John Beretz
BY *Goldman Polach*
ATTORNEY

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JOHN BERETZ, OF BLAIR, WEST VIRGINIA.

COMBINATION TOOL.

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This invention relates to improvements in pliers, and has for its object to provide a tool of this kind having a novel means for stripping the insulation from electric wires.

5 It has also combined with the principal elements of the tool, other useful implements; such as a knife blade and an awl, and is provided with cutting jaws for severing the said wire.

10 The stripping elements and the cutting members of the plier jaws are set back from the sides thereof in such a way as to give better support thereto than is the case when these members are placed at the side edges
15 as is the customary practice.

The device will be more fully described in the following specification and will be found illustrated in the accompanying drawings, in which:

20 Fig. 1 shows a side view of the pliers;

Fig. 2 shows the pliers on a smaller scale and with the jaws open and the auxiliary implements thrown into operative position;

25 Fig. 3 shows a section on the line 3—3 of Fig. 2;

Fig. 4 shows a section on the line 4—4 of Fig. 1;

30 Fig. 5 shows a fragmentary side view of the plier jaws with another form of stripping elements which have means for the adjustment thereof;

Fig. 6 shows a top view of the jaws shown in Fig. 5;

35 Fig. 7 shows an enlarged front view of the adjustable stripping member removed from the pliers; and

Fig. 8 shows a section on the line 8—8 of Fig. 7.

40 In its simplest form, the tool comprises the following component parts.

Referring to Fig. 1, handles 10 and 11 are pivotally secured together by the rivet 12 and at their forward extremities are provided with jaws as shown at 13 and 14. In
45 the handle 10 is pivotally secured the blade 15 which is held in either its open or closed position by the spring 16 which may be seen in the dotted line in Fig. 3. Still referring to Fig. 1, an awl 17 is mounted in
50 similar fashion to that of the blade above described. These implements may be replaced by other utensils if it is desired to do so. Slots 18 and 19 are provided in the plier joint for cutting such forms of
55 wire as require the application of more power than is afforded by the cutting jaws

of the pliers. The said cutting jaws, shown at 20 and 21, are set back from the sides of the pliers as may be seen in Fig. 4. In this position they are more fully protected
60 and are afforded a greater degree of support than the cutting elements of ordinary pliers, which are usually set at the extreme side edge. A shear cut is also provided by the arrangement of the said cutting jaws. 65

The wire stripping elements having members 22 and 23 as seen in Fig. 1, meet together vertically and have small notches 24 and 25 for centering the wire. The novel
70 feature of these stripping members rests in the fact of their location being set back from the sides of the plier jaws; and in recesses in the said jaws on both sides of the said stripping members as shown at 26
75 and 27 in Fig. 3. These side recesses aid in the centering of the wire for stripping, as they engage the insulation and force the wire to a middle position between the said stripping members.

In the form of the stripper shown in Fig. 80 5, a rotatable plate 40 is pivotally mounted within the slot 28, the outlines of which may be seen in the dotted line. This plate is provided with several gripping edges as may be seen at 29, 30, etc., in Fig. 7. It
85 has also grooves as shown at 31, 32, etc., in the same figure, and notches as shown at 33, 34, etc. Referring again to Fig. 5, it will be seen that this plate may be rotated by turning it forward from the top by means
90 of the slotted head shown at 35 in Fig. 6, and when so turned, any of its edges may be brought opposite to the lower gripping jaw 25. The spring stop 36 having a ratchet
95 tooth 37 engages the groove in line above the edge to be used and prevents the plate from turning backward when in contact with a wire.

It will be seen that the notches in registration are vertically in line at the left of
100 the pivot so that the pressure is thrown back against the stop member as shown. The edges of the plate, being at different distances from the pivot, will allow greater or less space between the gripping jaws when
105 the plier is closed, and may thus be adapted for wires of varying diameters; the object of course being to prevent the indentation or cutting of the wire when stripping.

The plate 40 is secured to the pivot by a
110 right-hand thread as shown at 38 in Fig. 8.

In use, the wire to be stripped is engaged

by the stripping members and the tool is forced sidewise along the wire thus pushing off the insulating material.

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

1. In a device of the class described, the combination with a pair of pliers, of wire stripping elements comprising a lower gripping member located at a point intermediate to the sides of the said plier jaw, and an opposed gripping member having the form of a rotatable plate with a plurality of straight edges which are at varying distances from the pivot center of the said plate and each of which edges may be brought into registration with the said lower member, and means to lock the said plate in the desired position.

2. In a device of the class described, the

combination with a pair of pliers, of wire stripping elements comprising a lower gripping member located at a point intermediate to the sides of the said plier jaw, and an opposed gripping element which is pivotally mounted within a slot in the plier jaw opposed to that first mentioned and is provided with a plurality of straight edges notched intermediate to the ends thereof, and a stop ratchet member on the jaw of the said plier, which ratchet is adapted to engage a groove in the side of the said opposed gripping element, and means to rotate the said opposed element to bring same into registration with the said lower gripping member.

In testimony whereof I have affixed my signature.

JOHN BERETZ.