

[54] WIRE-CUTTING TOOL PROVIDED WITH
HOLDING MEMBER

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abandoned.

[30] **Foreign Application Priority Data**

Mar. 11, 1969 Germany..... 1912254

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[51] Int. Cl. **B26b 17/04**

[58] Field of Search..... 30/124, 134, 135

[56] **References Cited**

UNITED STATES PATENTS

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[57] **ABSTRACT**

A wire-cutting tool has a pair of swingably interconnected plier arms and a holding member swingable jointly with one of these arms, this holding member including a rear portion traversed by the pivotal plier axle and rigid with the shank of the associated arm, an inclined front portion substantially coextensive with a sloping face on the jaw of that arm, and a substantially triangular intermediate portion which is perpendicular to the swing plane and overlies a transverse land of the arm. Upon the cutting of a wire, a straight edge of the front portion of the holding member normally registering with the cutting edge of the underlying jaw is repressed by the cut-off wire end and rides up the sloping jaw face against the torsional resistance of the triangular intermediate portion of the holding member.

3 Claims, 6 Drawing Figures

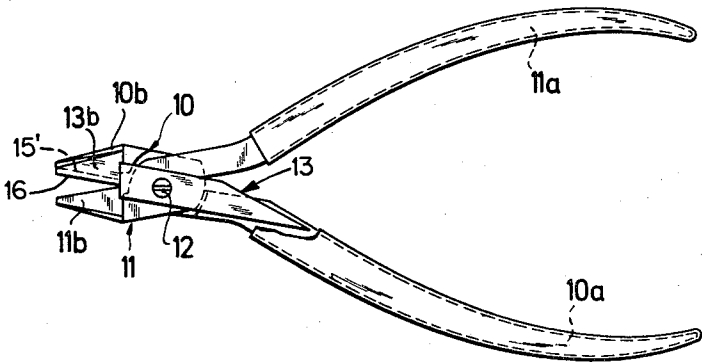


Fig.1

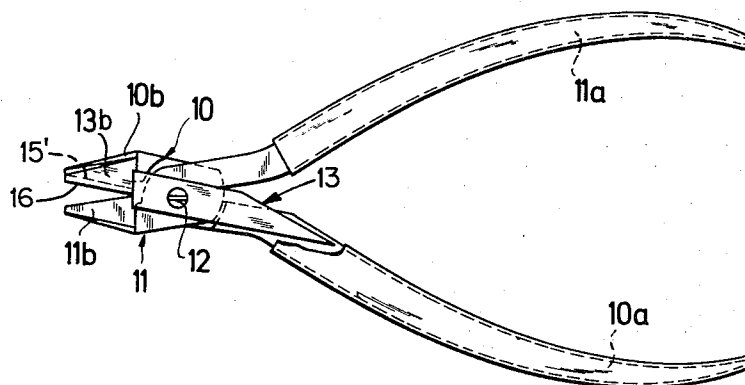


Fig.2

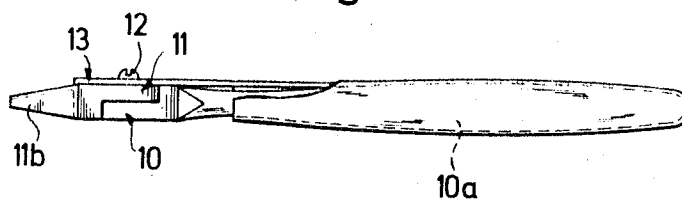
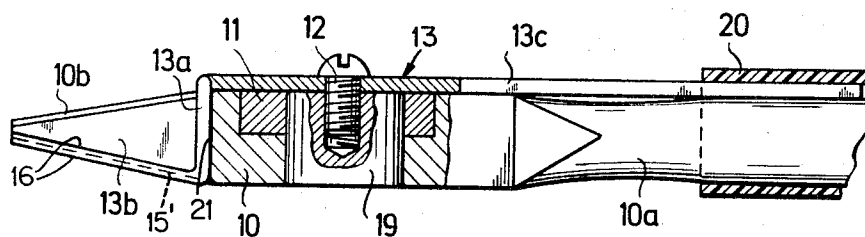
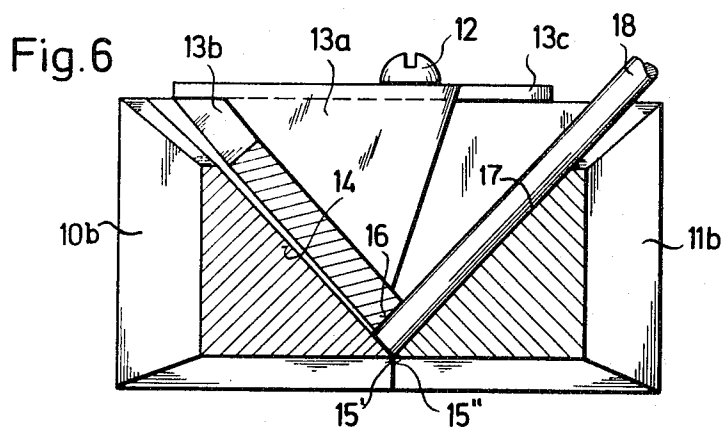
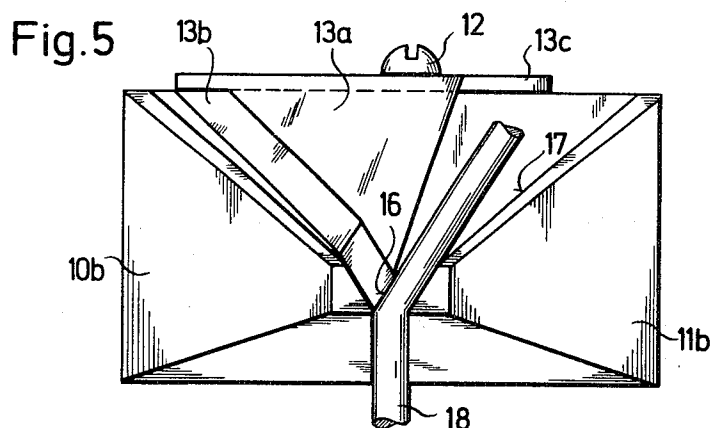
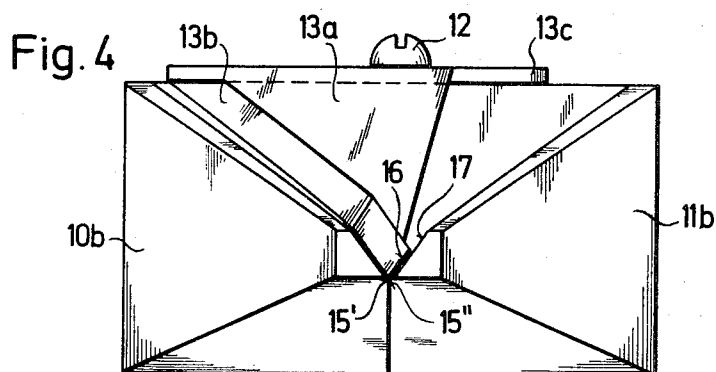


Fig.3





WIRE-CUTTING TOOL PROVIDED WITH HOLDING MEMBER

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of my copending application Ser. No. 17,177 filed Mar. 6, 1970 and now abandoned.

FIELD OF THE INVENTION

My present invention relates to a wire-cutting tool, more specifically a pair of pliers, of the type wherein two plier arms are interconnected for relative rotation in a swing plane about a pivotal axle. In such a tool, the front ends of the plier arms generally form a pair of jaws with sloping faces which terminate in respective cutting edges meeting in a straight line when the pliers are operated, i.e., in a position of closure.

BACKGROUND OF THE INVENTION

It is known to provide such a tool with a holding member which, upon closure of the jaws to cut a wire, resiliently grips a cut-off piece of wire between itself and a confronting jaw and releases it only when the jaws are reopened.

OBJECT OF THE INVENTION

The object of my invention is to provide a wire-cutting tool so equipped in which the holding member does not obstruct the view of the cutting edges of the jaws and wherein the wire-gripping portion of that member is effective anywhere along these cutting edges to grip even a short wire end.

SUMMARY OF THE INVENTION

I realize this object, in conformity with my present invention, by constructing a holding member as a flat integral resilient strip longitudinally subdivided into three portions, namely:

- a. a rear portion parallel to the swing plane of the plier arms and traversed by their pivotal axle, this rear portion being anchored rearwardly of the pivotal axle to the shank of one of the arms;
- b. a substantially triangular intermediate portion perpendicular to the swing plane overlying a transverse land of the associated arm which adjoins the sloping face of that arm's jaw; and
- c. an inclined front portion which is substantially coextensive with that sloping face and overlies same with limited relative slidability against the torsional resistance of the triangular intermediate portion, this front portion having a straight edge extending along essentially the full length of the cutting edge of the underlying jaw.

Advantageously, the straight edge of the front portion of the holding member lies flat against the sloping face of the opposite jaw in the closure position.

If the shanks of the plier arms are partly covered by insulation, the rear portion of the holding member may be anchored to the associated arm by having an extremity enveloped by the insulation thereof.

BRIEF DESCRIPTION OF THE DRAWING

The invention will be described in greater detail with reference to the accompanying drawing in which:

FIG. 1 is a top plan view of a wire-cutting tool embodying my invention;

FIG. 2 is a side-elevational view of the tool of FIG. 1;

FIG. 3 is an enlarged fragmentary view, partly in longitudinal section of the forward half of the tool of FIGS. 1 and 2;

FIG. 4 is an enlarged front view of the tool with its jaws closed;

FIG. 5 is a view similar to FIG. 4, with a wire gripped between the closing jaws of the tool; and

FIG. 6 is a cross-section front view showing the gripping of a cut-off piece of wire by a holding member upon closure of the jaws.

SPECIFIC DESCRIPTION

The tool shown in the drawing comprises a pair of plier arms 10 and 11 which are swingably interconnected by a screw 12 serving as a pivotal axle therefor. Arms 10 and 11 have rearwardly extending shanks 10a, 11a which are covered with insulation 20. The front ends of these arms form a pair of jaws 10b, 11b with sloping faces 14, 17 terminating in respective cutting edges 15', 15''. Faces 14 and 17 together define a V-groove of forwardly decreasing depth when the tool is closed as shown in FIGS. 4 and 6.

A holding member 13, secured to plier arm 10 for joint swinging therewith, is a flat resilient strip divided into a rear portion 13c, a front portion 13b and an intermediate portion 13a. Rear portion 13c is traversed by the screw 12, which engages a boss 19 of arm 11, and lies parallel to the swing plane of the two arms; this portion is rigidly anchored to arm 10 by having an extremity inserted into the insulation 20 partly enveloping the shank 10a of that arm. The front portion 13b is substantially coextensive with the sloping face 14 of jaw 10b and overlies same with limited slidability against the torsional resistance of intermediate portion 13a; the latter, which is perpendicular to the swing plane, overlies a transverse land 21 of arm 10 adjoining the face 14 thereof. This front portion has a straight edge 16 which, as seen in FIGS. 1 and 3, extends along substantially the full length of cutting edge 15'.

When the tool is closed with no workpiece inserted, edge 16 comes to rest against the sloping face 17 of the confronting jaw 11b as illustrated in FIG. 4. If a wire 18 is placed between the closing jaws, as seen in FIG. 5, the upper part of this wire is gripped between the edge 16 and the jaw face 17 as the wire is cut between edges 15' and 15''. FIG. 6 shows how the cut-off piece of wire 18 remains held by the front portion of member 13 as long as the tool is closed, being released upon reopening.

I claim:

1. In a wire-cutting tool including a pair of plier arms interconnected for relative rotation in a swing plane about a pivotal axle, said arms having rearwardly extending shanks and forwardly extending jaws with sloping faces which terminate in respective cutting edges meeting along a straight line in a closure position, and a holding member secured to one of said arms for joint swinging to grip a cut-off wire end between itself and the opposite jaw upon closure of said jaws, the improvement wherein said holding member is a flat integral resilient strip longitudinally subdivided into three portions, namely:

a rear portion parallel to said swing plane traversed by said pivotal axle and rigidly anchored rear-

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wardly of said axle to the shank of said one of said arms;

a substantially triangular intermediate portion perpendicular to said swing plane overlying a transverse land of said one of said arms adjoining the sloping face thereof; and

an inclined front portion substantially coextensive with said sloping face of said one of said arms and overlying same with limited relative slidability against the torsional resistance of said intermediate portion, said front portion having a straight edge

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extending along substantially the full length of the cutting edge of said one of said arms.

2. The improvement defined in claim 1 wherein said straight edge lies flat against the sloping face of said opposite jaw in said closure position.

3. The improvement defined in claim 1 wherein said shanks are partly covered by insulation, said rear portion being anchored to the shank of said one of said arms by having an extremity enveloped by the insulation thereof.

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