Nov. 4, 1924. 1,514,488

H. G. WERNIMONT

COMBINATION TOOL

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FIG. 1.

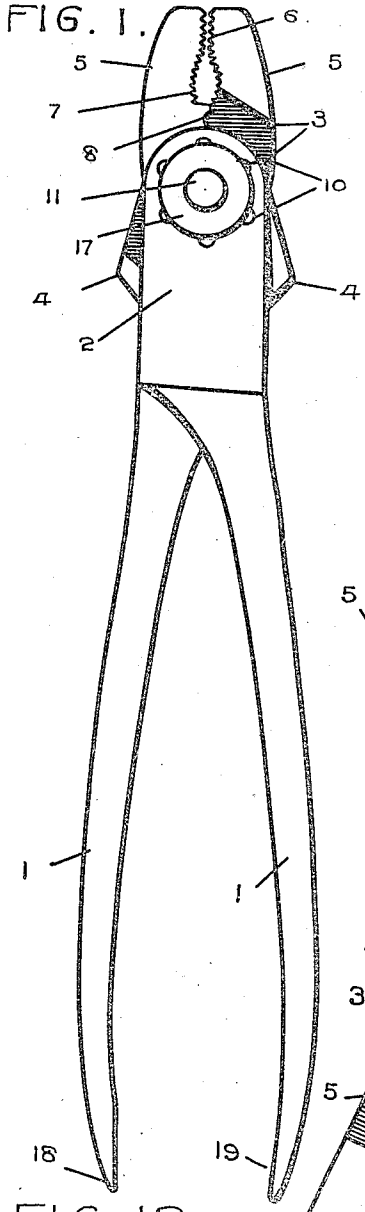

FIG. 10.

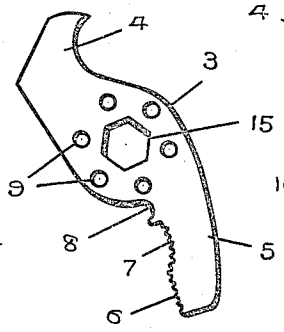

FIG. 11.

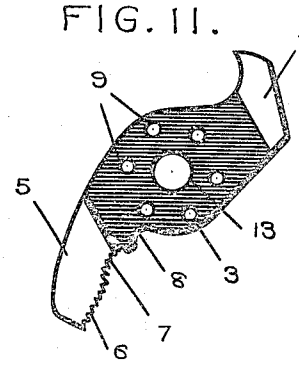

FIG. 2

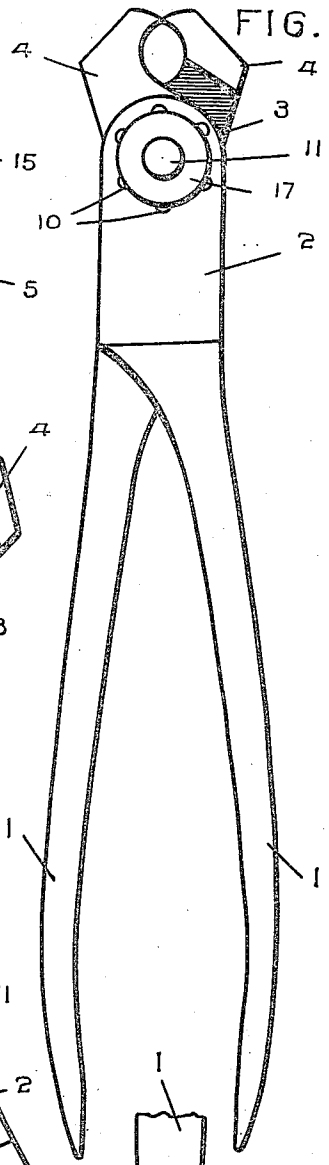

FIG. 3.

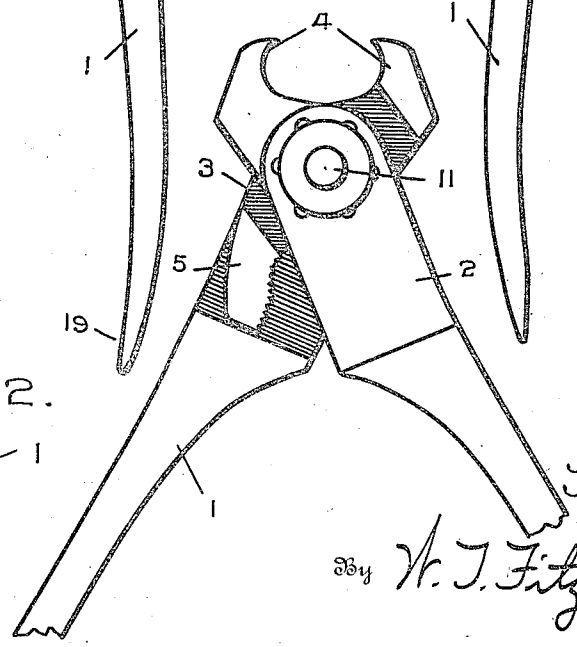

FIG. 12.

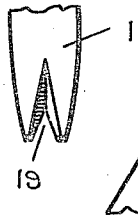

FIG. 13

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FIG. 8.

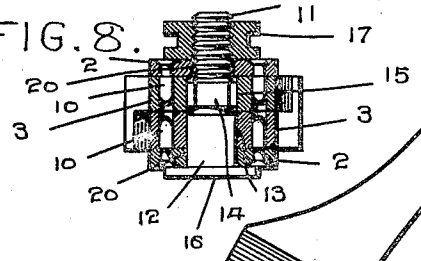

FIG. 4.

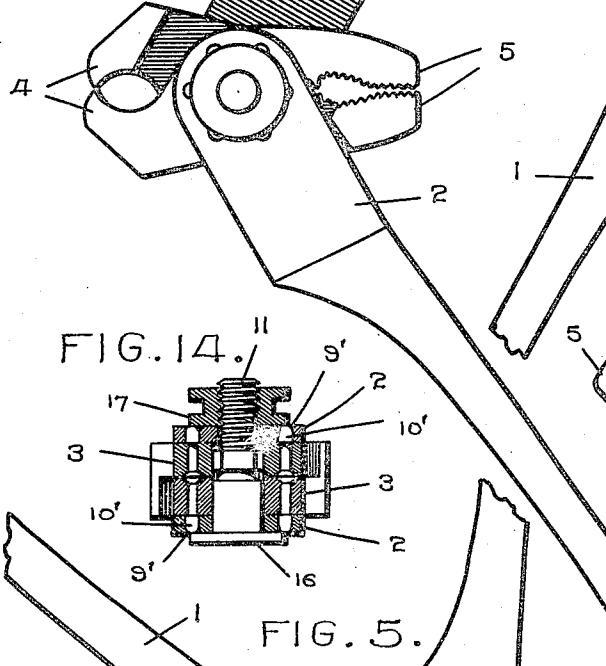

FIG. 6.

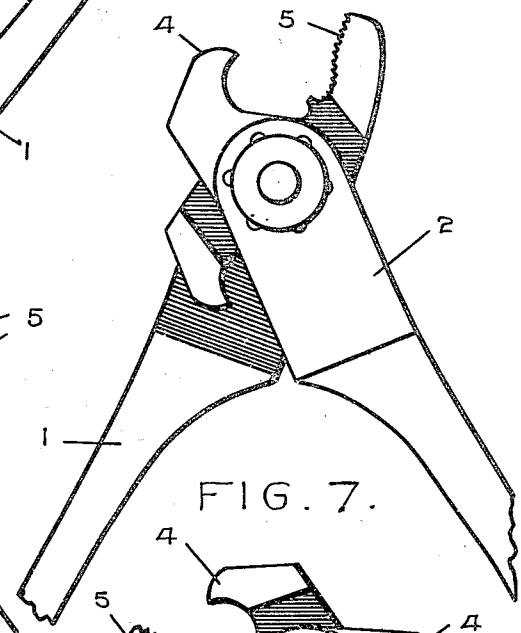

FIG. 7.

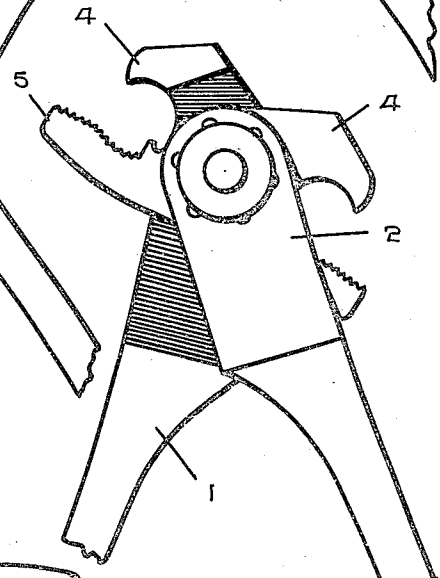

FIG. 14.

FIG. 5.

FIG. 9

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UNITED STATES PATENT OFFICE.

HENRY G. WERNIMONT, OF OMAHA, NEBRASKA.

COMBINATION TOOL.

Application filed June 21, 1922. Serial No. 569,803.

To all whom it may concern:

Be it known that I, HENRY G. WERNIMONT, a citizen of the United States, and resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Combination Tools, of which the following is a specification.

The present invention relates to compound tools of the plier type, and it is the object of this invention to simplify and improve the pivot joint of the tool, whereby to reduce the cost and facilitate the manufacture of the tool, and to enhance the utility thereof.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the tool showing the same as used as an ordinary pliers, pincers, wire cutter, and the like;

Fig. 2 is a similar view showing the head reversed to use the tool as a pair of nippers, cutting pincers, or the like;

Fig. 3 is a similar view showing the handles separated to open the jaws or cutters, the handles being partially broken away;

Fig. 4 is a side elevation showing the handles set at an angle different from that seen in Fig. 3;

Fig. 5 shows the head in a transverse position relatively to the handles to bring both sets of jaws into use and located at angles relatively to the handles;

Figs. 6 and 7 show other positions of the several elements for use under other conditions;

Fig. 8 is a cross-section through the pivot joint to show the connection of the parts;

Fig. 9 is an elevation of one handle showing the outer end thereof;

Figs. 10 and 11 are elevations of the two parts of the head, showing the similarity and the slight differences in the holes therein;

Figs. 12 and 13 are detail views showing the ends of the handles formed for use as a tack-puller and a screwdriver, respectively; and

Fig. 14 is a view similar to Fig. 8 showing a modification.

The tool comprises a pair of suitable handles or levers 1 provided at their outer ends with the flat portions or tongues 2, the levers or handles being of duplicate construction, but in reversed positions, so as to reduce the cost of manufacture.

The head of the tool is mounted between the portions 2 for pivotal movement and adjustment, and this head consists of two parts or side pieces 3 disposed side by side snugly between the portions 2, each part or section 3 of the head being provided at one end with a hook-shaped jaw or cutter blade 4, and at the opposite end with a plier or pincer jaw 5. The two parts or sections of the head are duplicates in reversed positions so as to cross one another at their intermediate portions. The faces of the jaws 5 have the flat toothed portions 6 at the ends of the jaws, the concaved toothed portions 7 between the ends of the jaws, and the wire cutting notches or portions 8 at the inner ends of the jaws. The intermediate flat portions of the parts or sections of the head are clamped between the portions 2 of the handles as seen in Fig. 8, and the parts 3 are provided with the annular sets of apertures or sockets 9, and the portions 2 have similarly-arranged pins or lugs 10 riveted therethrough and projecting from their inner surfaces to enter the apertures 9 and thereby engage the parts of the head with the handles for movement therewith.

A bolt 11 is used for pivotally connecting and clamping the parts together, said bolt having a smooth cylindrical portion 12 to extend through a smooth circular aperture 13 in one part 3, and the bolt having a polygonal portion 14 to fit in a similar aperture 15 in the other part 3, whereby the bolt 11 and last named part 3 will not rotate relatively. The portion 12 is adjacent to the flat head 16 of the bolt which bears against the respective portion 2 opposite to the part 3 through which the portion 14 extends, and a suitable nut 17 is threaded on the threaded terminal of the bolt to bear against the opposite portion 2. The nut 17 is such that it can be conveniently loosened and tightened by the thumb and fingers, and when the nut is tightened, the parts 3 are firmly

clamped together, but permitting the parts 3 to swing relatively when the handles are swung toward and away from one another.

By loosening the nut 17 sufficiently, the parts can be shifted transversely, in order that either handle can be released from its part or section of the head by withdrawing the pins or lugs 10 from the apertures 9, thus permitting the handle and head to be adjusted angularly relatively to one another, and each handle can thus be adjusted, or the parts of the head turned to different positions, as seen in Figs. 1 to 7. These and other positions of the parts enable the implement to be used under various conditions and for many purposes. As shown in Fig. 1, the implement is used as an ordinary pair of pliers or pincers, or as a wire cutter. In this position, the head is disposed longitudinally of the handles with the jaws 5 outermost, whereas, as seen in Figs. 2 and 3, the head is reversed with the jaws or cutters 4 outermost to use the tool as a pair of nippers or cutting pincers. Not only can the head be adjusted to various angles, but the parts thereof can be adjusted angularly relatively to one another and to the handles to adapt the tool to various conditions and to perform various sorts of work. Thus, each handle and its part or section of the head can be set at six angular positions relatively to one another, thereby giving a considerable latitude of adjustment. The construction is simplified and improved to enhance the utility and practicability of the tool, and enable it to be manufactured easier and at smaller cost. The ends of the handles 1 can be formed to provide a screwdriver blade 18, and a tack-puller 19, as shown in Figs. 13 and 12; and the implement can also be used as a hammer and for other purposes as will suggest themselves to the user. The pins 10 can be readily secured to the portions 2 of the handles by drilling holes in the handles around the openings 20 therein, and riveting the pins in said apertures of the handles. As shown, there are six apertures 9 in each part of the head around the central opening 13 or 15, and the pins 10 of each handle are similarly arranged around the opening 20 of such handle. The drilling of the apertures or holes in the parts and the anchoring of the pins in the holes of the handles will facilitate manufacture, and also provide for convenient adjustments and the secure movements of the parts of the head with the handles when the handles and head are clamped together with the pins in the apertures 9.

As shown in Fig. 14, the apertures 9′ are in the portions 2 of the handles or levers, and the pins 10′ are riveted through the apertures in the sections or parts 3 of the head, thereby reversing the pins. The pins 10′ project outwardly from the opposite surfaces of the parts 3 to enter the apertures 9′ in the handles or levers.

Having thus described the invention, what is claimed as new is:—

1. A combination tool having a pair of handles, a head composed of two parts disposed between the handles, and a clamping and pivot member extending through the handles and parts of the head, said parts and handles having apertures and pins to fit in the apertures for positioning the parts of the head in different angular relations with the handles.

2. A combination tool having a pair of handles, a head composed of two parts between the handles, and a clamping and pivot member extending through said handles and parts of the head, said parts and handles having sets of apertures and pins surrounding said member, the pins being arranged to fit in said apertures for the positioning of the parts of the head in different angular relations with the handles.

3. A combination tool having a pair of handles, a head composed of two parts disposed between the handles, said handles and parts having openings, and a clamping and pivot bolt extending through said openings, some of the adjacent portions of the parts of the head and handles having apertures surrounding the corresponding openings, and the other of said portions having pins riveted therein around the corresponding openings to fit in said apertures and position the parts of the head in different angular relations with reference to the handles.

Signed at New York, in the county of New York and State of New York, this 9th day of May, A. D. 1922.

HENRY G. WERNIMONT.

Witnesses:
MILDRED HANLON,
HENRY R. LE VINE.