

S. SHAPIRO.
COMBINATION TOOL.
APPLICATION FILED MAY 8, 1920.

1,399,665.

Patented Dec. 6, 1921.

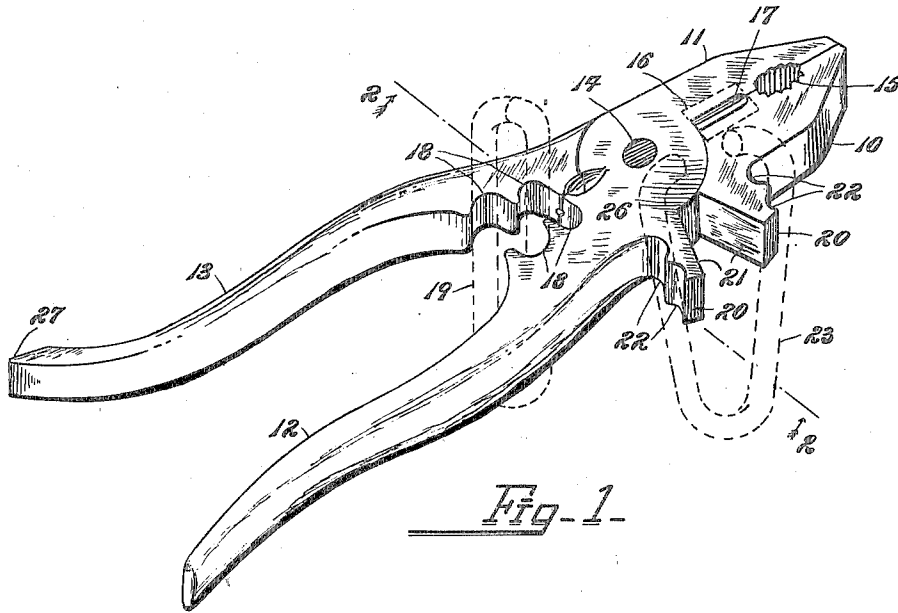


Fig. 1.

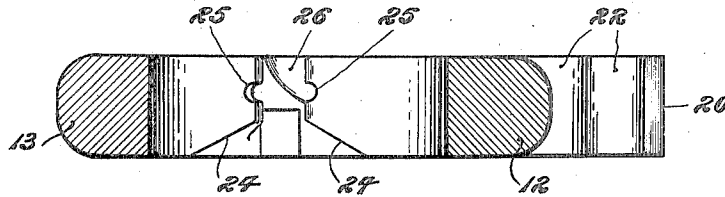


Fig. 2.

Alfred I. Bratton
WITNESS:

Samuel Shapiro
INVENTOR
BY Victor J. Evans
ATTORNEY.

UNITED STATES PATENT OFFICE.

SAMUEL SHAPIRO, OF PHILADELPHIA, PENNSYLVANIA.

COMBINATION-TOOL.

1,399,665.

Specification of Letters Patent.

Patented Dec. 6, 1921.

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To all whom it may concern:

Be it known that I, SAMUEL SHAPIRO, a citizen of Russia, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Combination-Tools, of which the following is a specification.

This invention relates to combination tools and it has more particular reference to the provision of a combination tool for use by telegraph linemen and electricians generally.

The main object of this invention is to provide a combination tool or pliers by the use of which links of chains may be opened and closed with ease.

Another object of this invention is to provide a tool of the nature referred to which will greatly facilitate the stripping of the insulation from electric wires and the like.

With these and other objects in view as will later on be more apparent, the invention consists essentially of a pair of pliers, the jaws of which are provided with grooved projections for opening a chain link and grooves in the handle portion which are adapted to close an opened link.

In the further disclosure of the invention reference is to be had to the accompanying drawings constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which,—

Figure 1 is a perspective view of my improved combination tool or pliers, the dotted lines indicating the use of the tool for chain link opening and closing purposes; and

Fig. 2 is an enlarged sectional view taken approximately on the line 2—2 in Fig. 1.

Referring to the drawings, the numerals 10, 11 indicate a pair of jaws which are provided with extensions or handle portions 13, 12, respectively, said jaws being pivotally connected by a pivot pin 14. At or near the forward end and on the inner face of the jaws 10, 11 are cut-away portions 15 which are grooved or serrated so that when the pliers are applied to a rod or pipe, a firm hold may be taken thereon, and said jaws are also recessed at 16 to provide cutting edges 17.

On the inner faces of the handle portions 12, 13, rearwardly of and adjacent the pivot, I form what may be termed opposed vertical grooves 18 which serve in use to grip and close a link as indicated by the dotted lines

19. The successive grooves are of different depth or width.

Each jaw 10, 11 is provided with a laterally and outwardly projected part 20 the inner faces 21 whereof are adapted to abut when the pliers are opened to their full extent, and said projections are also provided on their outer faces with vertical spaced grooves 22 which serve in use to open a chain link as indicated by the dotted lines 23. When the jaw members 20 are closed the thickness of these combined members at the bases of their grooves 22 will be substantially the same as the width of the recesses 18 when the handles 12 and 13 are closed. On the drawings, it will be seen that the inner walls 24 of the inner groove 18 are notched out at 25 and that the abutting edges of said walls 24 are chamfered to constitute cutting edges for the purpose hereinafter explained, while a groove 26 is formed in the inner shank portion of the handle 12, said groove being in line with the aforesaid cut-out or notched portions 25. One of the handles, 13 for example, is formed at its outer end to constitute a screw-driver blade 27.

From the foregoing description it will be readily seen that when the pliers are in closed position the projections 20 on the jaws thereof will be radially opened outward relative to the pivot pin 14, and thus it will be easily seen that in order to open a link 23, for example, said projections 20 are passed into the link and the plier handles 12, 13 then drawn together, the link being retained in one or other of the aligning grooves 22. On the other hand when it is desired to close a link, such as 19 for example, the pliers are opened to their full extent and the link to be closed is gripped between opposed grooves 18, whereupon pressure applied to the handle portions 12, 13 will result in the link being brought into closed position.

Furthermore it will be readily understood that when a piece of insulated wire is required to have the end of a portion thereof stripped, said insulated wire is placed between the cut-out or notched portions 25, which will cut through the insulation but not through the wire, whereupon a firm hold being taken upon the portion of the wire to be stripped, will remove the insulation therefrom without damage or cutting of the copper conducting wire.

From the foregoing description it will be readily understood that by my invention I provide an exceedingly cheap and simple construction of combination tool for use by
5 linemen and electricians; and while I have shown and described a preferred construction, it will be readily understood that various slight changes may be made in the shape and proportion of the various parts without
10 departing from the spirit and nature of the invention, as more specifically defined by the appended claim.

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

A tool of the character described compris-

ing a pair of members pivoted in crossed relation and terminating in handles, the confronting faces of said handles rearwardly of
and adjacent the pivot being formed with re- 20
cesses of varying depth or width, and laterally and outwardly extending jaw members carried by said members and formed with
spaced grooves on their outer faces, the
thickness of the combined last-named mem- 25
bers at the bases of the grooves when these members are closed being substantially the same as the width of said first-named recesses when the handle members are closed.

In testimony whereof I affix my signature. 30

SAMUEL SHAPIRO.