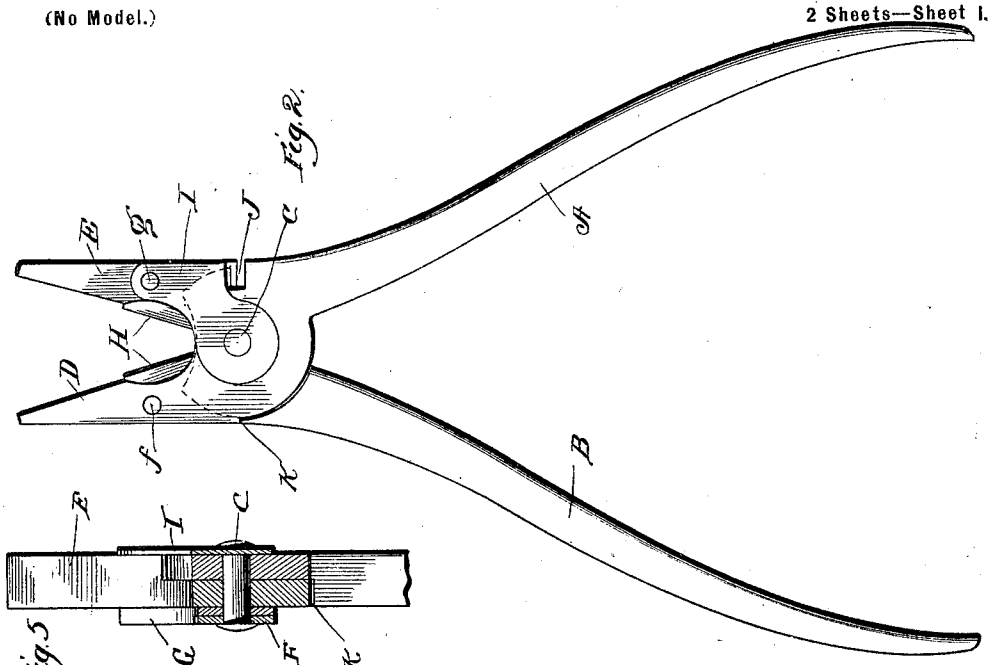
No. 699,832. Patented May 13, 1902.

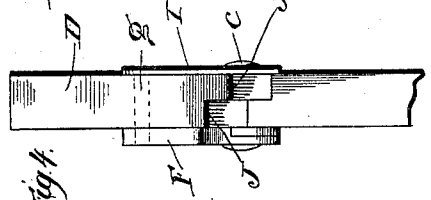
P. BROADBOOKS.

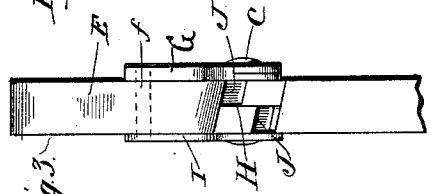
COMBINED WIRE CUTTER AND PLIERS.

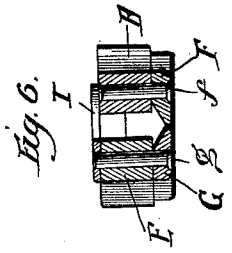
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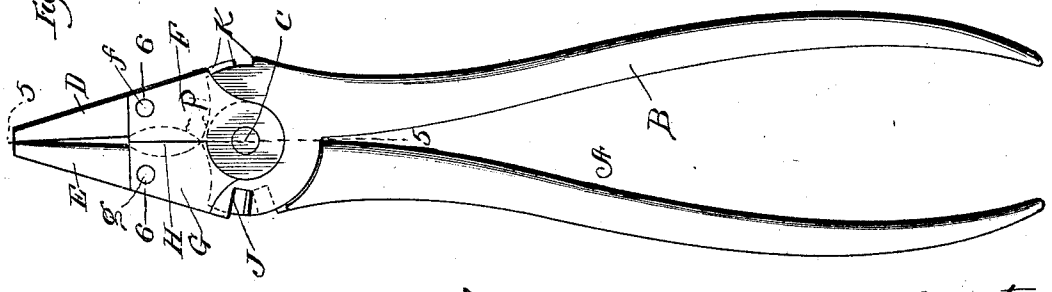
(No Model.) 2 Sheets—Sheet 1.











Witnesses:
H. B. Hallock.
L. H. Morrison

Inventor
Peter Broadbooks
By
W. Preston Williamson
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 699,832. Patented May 13, 1902.

P. BROADBOOKS.

COMBINED WIRE CUTTER AND PLIERS.

(Application filed Mar. 30, 1901.)

(No Model.) 2 Sheets—Sheet 2.

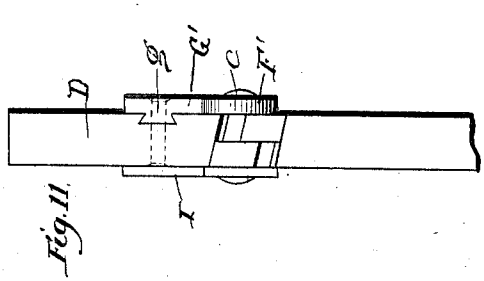


Fig. 11.

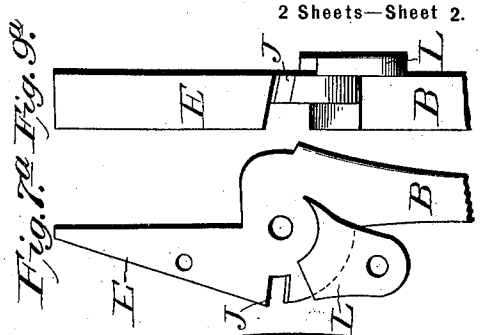


Fig. 7a Fig. 9a

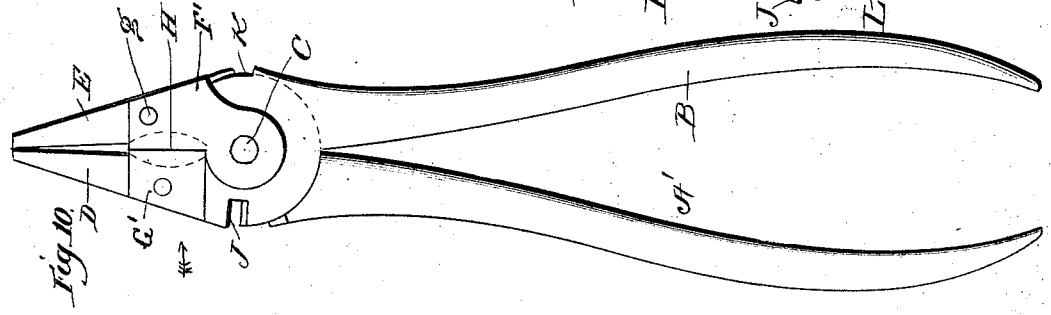


Fig. 10.

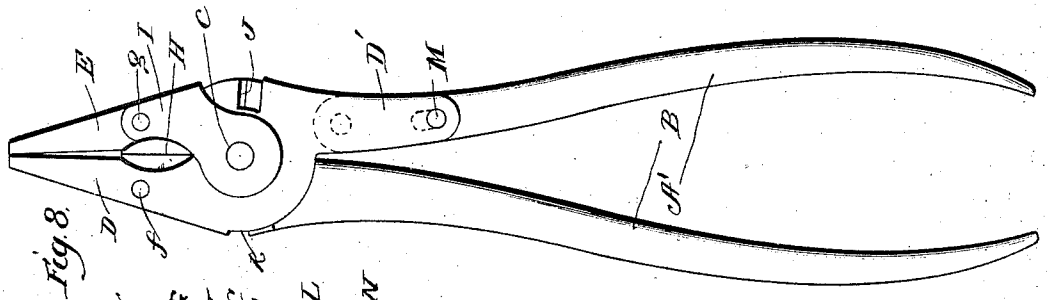


Fig. 8.

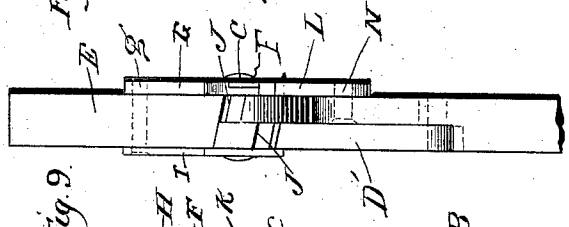


Fig. 9.

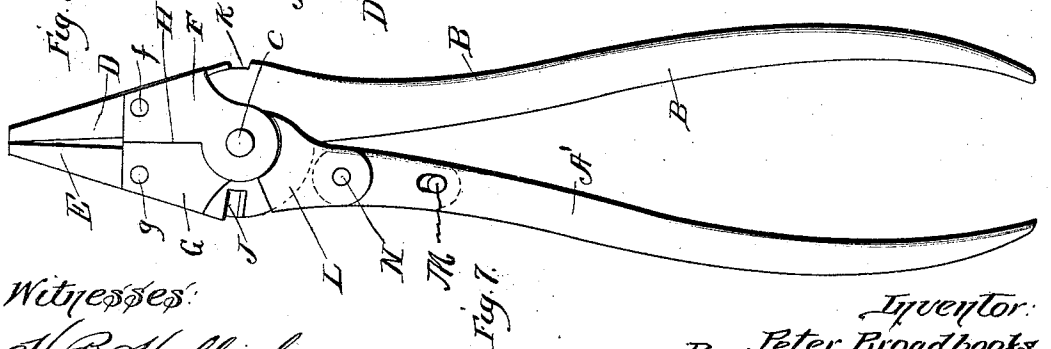


Fig. 7.

Witnesses:
H. B. Hallock.
L. A. Morrison

Inventor:
Peter Broadbooks
By W. Preston Williamson
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

COMBINED WIRE-CUTTER AND PLIERS.

SPECIFICATION forming part of Letters Patent No. 699,832, dated May 13, 1902.

Application filed March 30, 1901. Serial No. 53,591. (No model.)

To all whom it may concern:

Be it known that I, PETER BROADBOOKS, a citizen of the United States, residing at Batavia, county of Genesee, and State of New York, have invented a certain new and useful Improvement in Combination Wire-Cutters and Pliers, of which the following is a specification.

My invention relates to a new and useful improvement in combined wire-cutters and pliers, and has for its object to so construct a device of this character, which is commonly called "linesman's pliers," that it will be light in weight, but have greater strength and power than the linesman's pliers now in use.

A further object of my invention is to provide wire-cutting plates which can be removed whenever they become damaged or in need of sharpening and by pivoting said side cutting-plates at the same point as the handles are pivoted will allow the cutting to be done nearer the fulcrum-point.

Another object of my invention is to produce a device of this description which, with all its advantages, will be exceedingly simple in construction, and consequently cheap to manufacture.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of my pliers, showing the jaws closed. Fig. 2 is a side view from the opposite side of Fig. 1, showing the jaws open. Fig. 3 is an edge view of my pliers, the handles being broken away. Fig. 4 is a view of the opposite edge of my pliers; Fig. 5, a section on the line 5 5 of Fig. 1; Fig. 6, a section on the line 6 6 of Fig. 1; Fig. 7, a side view of my pliers, showing the same used with compound leverage. Fig. 7^a is a view in elevation of one of the jaws; Fig. 8, a view of the opposite side of the compound lever-pliers; Fig. 9, an edge view of the same. Fig. 9^a is an edge view of the jaw shown in Fig. 7^a; Fig. 10, a side view of a pair of pliers, showing the modification wherein the side plates are pivoted independently of the handles; and Fig. 11 is a view in elevation of the pliers shown in Fig. 10 looking in the direction of the arrow.

In carrying out my invention as embodied in Figs. 1 to 6, inclusive, A and B represent the handles of a pair of pliers which are led together and pivoted at C. D and E are the jaws, which are formed with the handles A and B, respectively. F and G are side plates, which are riveted to the jaws D and E at the points *f* and *g*. The heel ends of these side plates are pivoted together at the point C upon the same pivot as the handles A and B. These side plates meet when the pliers are closed at the line H and are milled or ground to knife-edges, forming wire-cutters. I is a strengthening-plate upon the opposite side of the jaws of the pliers, which is secured to the jaw E by the rivet *g*, which passes through the said jaw. The heel end of this plate I is also pivoted at the point C to the same pivot as are the handles A and B. That portion of the handles surrounding the pivot-point C is formed concentric with such pivot, and each pair of pliers are cut away one-half their width, so as to fit together and not cause the pivoted part to be of any greater width than the handles or jaws. The inside of each of the jaws and also the upper part of these concentric portions are cut away, as indicated at P, to a point comparatively near the pivot C. This is for the purpose of allowing the wire to be cut at a point near the fulcrum, which will enable the operator to use more force. Each of these circular portions of the handles has slots J cut in the edge of the same diagonally. These slots are adapted to register with one another when the pliers are open to their full extent for the insertion of any wire which is desired to be sheared off, and when the pliers are closed the wire will be severed by reason of the cutting edges of the slots passing one another. This manner of shearing wire is well known and in use in ordinary pliers; but the improvement in my pliers in connection

with these shearing-slots is that I provide stops upon the opposite edge of this circular portion K, so that when the pliers are open these stops will come together and limit the movement of the jaws, and when in this position the shearing-slots J are in exact register with one another.

In Figs. 7 to 9, inclusive, I have shown my invention in use where it is designed to employ compound leverage instead of direct. In this construction the handle B and jaw E are formed in one piece, as in the construction last described. The handle A′ is separate and pivoted to the member L, secured on the heel end of the jaw. The extension D′ has a pivotal pin M, working in a slot of the member A′. Said member A′ has its upper end pivoted at N to an extension L, formed with or rigidly attached to the member E.

In Figs. 10 and 11 I have illustrated the modification wherein instead of pivoting both side cutting-plates upon the pivot C, I pivot one cutting-plate F′ upon the pivot, the upper end of this cutting-plate being riveted to the jaw E at *g*, as before described, but the other plate G′ may be either formed with the jaw D or be a separate plate, as illustrated in the drawings, and secured to the jaw D by a dovetail tongue and groove. A rivet passing through this cutting-plate G′ and the jaw D serves to hold the same in place. The advantage of this construction is that the cutting-plate F′, which is pivoted upon the pivot C, need not be cut away at the pivotal point, but be of the same width throughout. This will add additional strength and simplify the construction.

Of course it will be understood that it is not necessary to have the jaws E and D made integral with the handles A and B; but they could be secured to the handles by riveting or other means, and this would probably be the construction employed in making very light pliers, such as are commonly called "hollow-handle" pliers.

The advantages of my invention are as follows: By pivoting the side plates F and G together upon one side of the main joint of the tool and by securing the side plate I to one of the jaws and pivoting the same upon the opposite side of the main joint strength is added at the point most needed. By holding the two members of the pliers more firmly and also keeping the jaws from twisting sidewise where the greatest strain comes and by reason of making the side plates F and G the cutting-plates and by pivoting them together at their heel ends one-half of the strain brought to bear upon the main jaws will be reduced. A further advantage is that in my construction the side cutters are much nearer the fulcrum, and the power is consequently increased in the same proportion and also allows the tool to be made much lighter and yet do more work. A further advantage of my construction is that but one die is required in making both members of the pliers, as illustrated in Figs. 1 to 6, inclusive, and Figs. 10 and 11. Also one die will make both cutting-plates, the bevel for the cutting edge being milled. Another advantage of my invention is that by making the cutting-plates removable new plates can be easily substituted with but little cost, thereby saving expense to the user of these tools.

Of course I do not wish to be limited to the exact construction shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In combination, two levers pivoted together, jaws formed with or secured to said levers, two side plates secured one to each of the jaws upon one side thereof, the heel ends of said side plates being pivoted together upon the outside of the main joint of the pliers, cutting edges formed upon each of said side plates, a plate secured to one of the jaws upon the opposite side thereof, the heel end of said plate being pivoted upon the same pivot as the jaws, substantially as described and for the purpose specified.

2. In combination, a pair of handle-levers led together and pivoted to each other, a pair of jaws formed with or secured to said levers, two removable plates, one secured to each of the said jaws upon one side thereof, the heel ends of said plates being pivoted together upon one side of the pivotal point of the jaws, cutting edges formed upon said plates at the point where said plates meet when the pliers are closed, a stop formed upon each member of the pliers, said stops adapted to engage one another when the jaws are open to a certain point for the purpose of limiting the movement of the same, substantially as described and for the purpose specified.

3. In combination, a pair of handle-levers led together and pivoted to one another, concentric portions formed concentric with the pivotal point formed with each of said levers, cavities formed upon the inside of each of the jaws and also the upright part of the concentric portions to a point comparatively near the pivot, stops formed upon one edge of each of said concentric portions and adapted to engage one another when the jaws of the pliers are open to a certain point, diagonal slots formed in the opposite edge of the concentric portion for the purpose of cutting or shearing wire, said diagonal slots adapted to register with one another when the aforesaid stops upon the opposite edge are in contact with one another, jaws formed with or secured to the handle-levers, two side plates, one secured to each of said jaws, the heel ends of said side plates being pivoted together, cutting edges formed upon said side plates, a plate

upon the opposite side of the pliers, said plate being secured to one of the jaws, the heel end of said plate being pivoted upon the same pivot as the handle-levers and jaws, substantially as described and for the purpose specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

PETER BROADBOOKS.

Witnesses:
F. L. HAWES,
C. A. HULL.