

No. 615,955.

Patented Dec. 13, 1898.

P. BROADBOOKS.
COMBINATION TOOL.

(Application filed Feb. 3, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

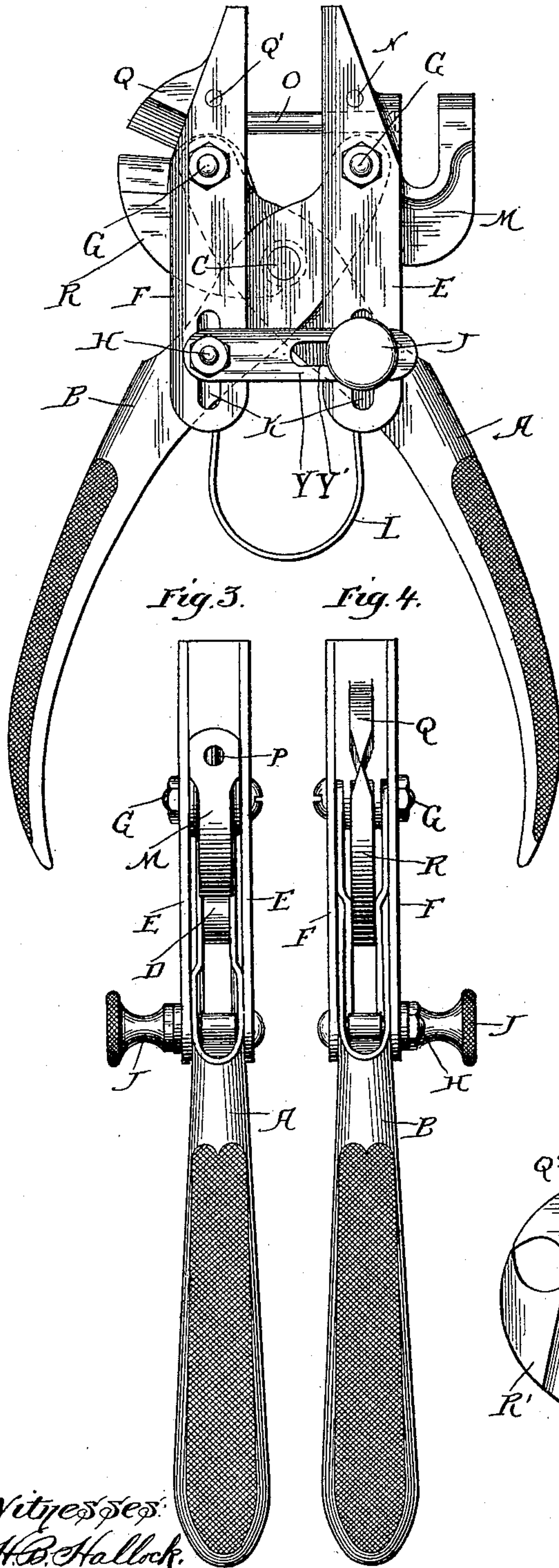


Fig. 3.

Fig. 4.

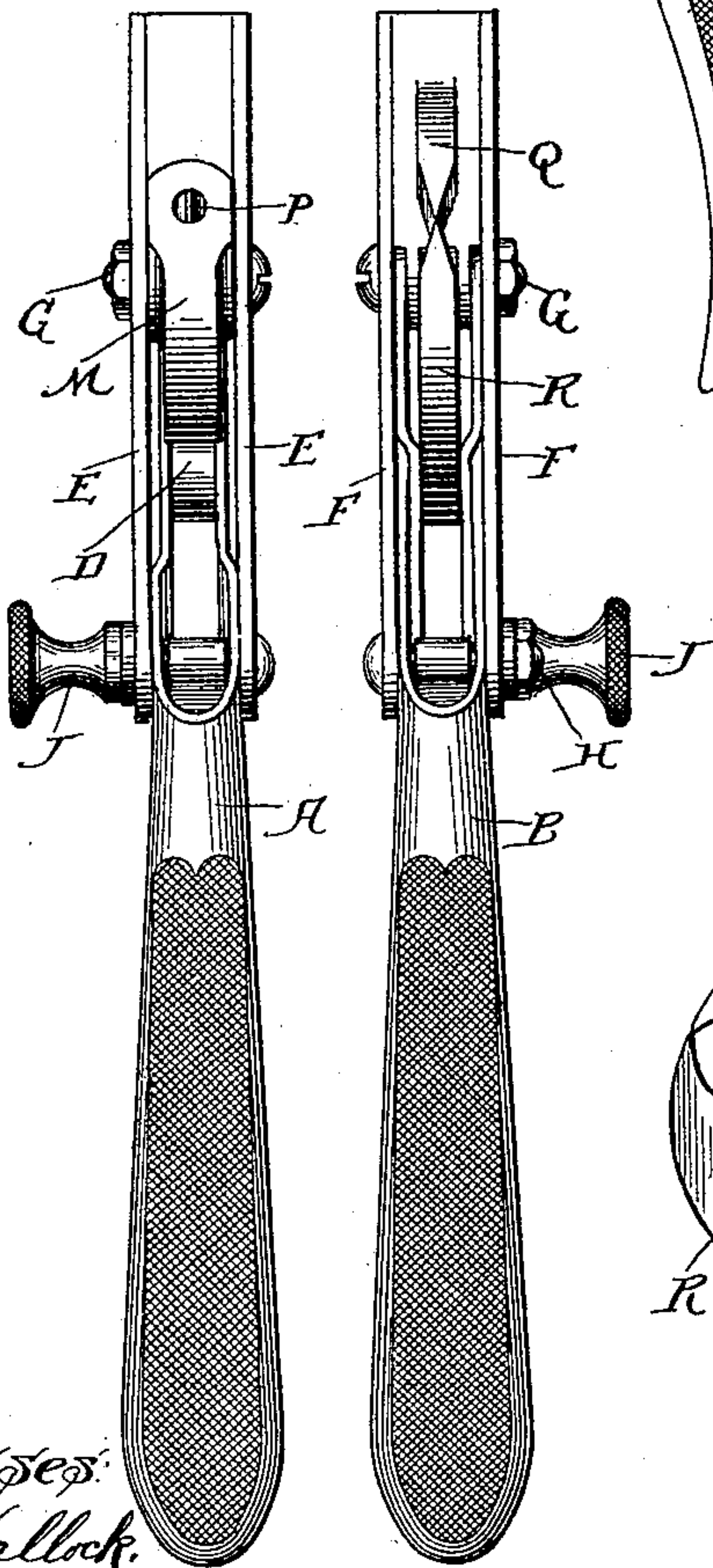


Fig. 2.

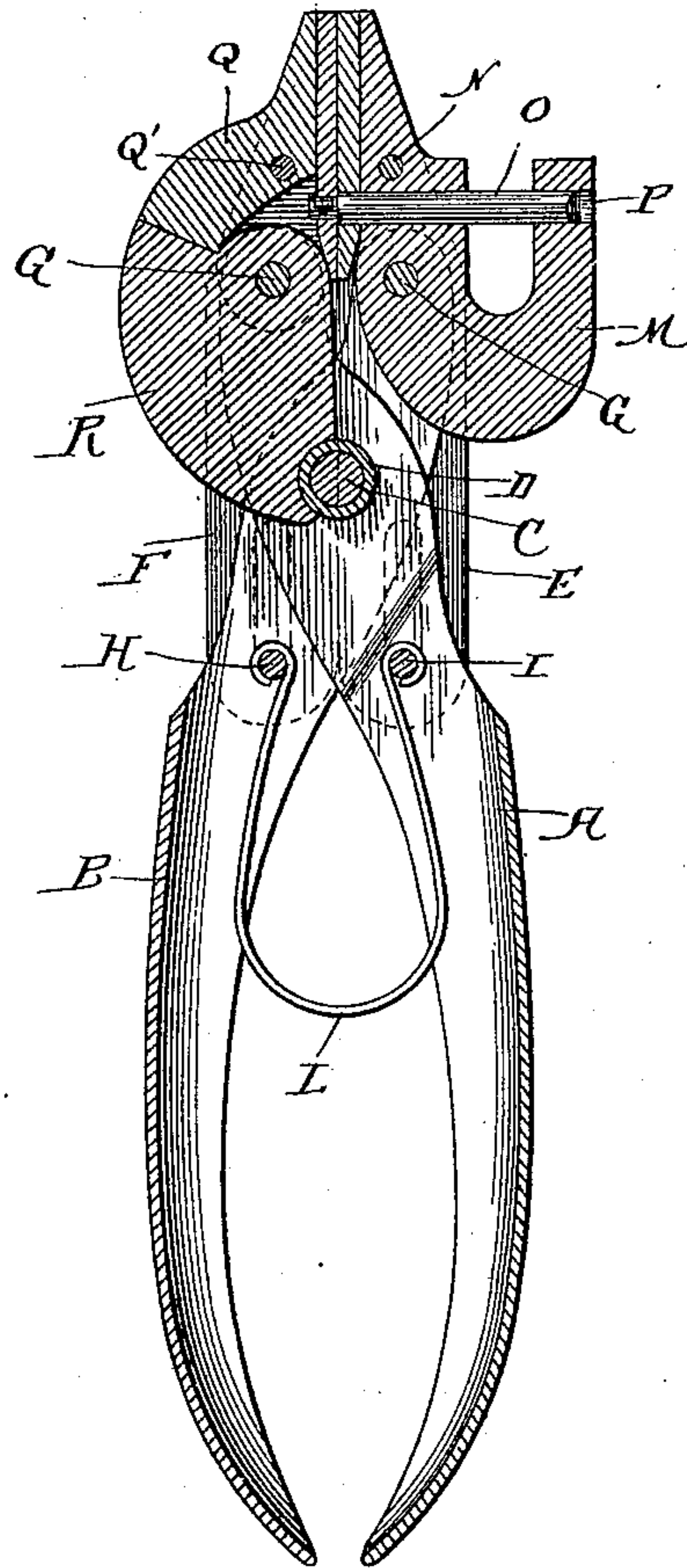


Fig. 5.

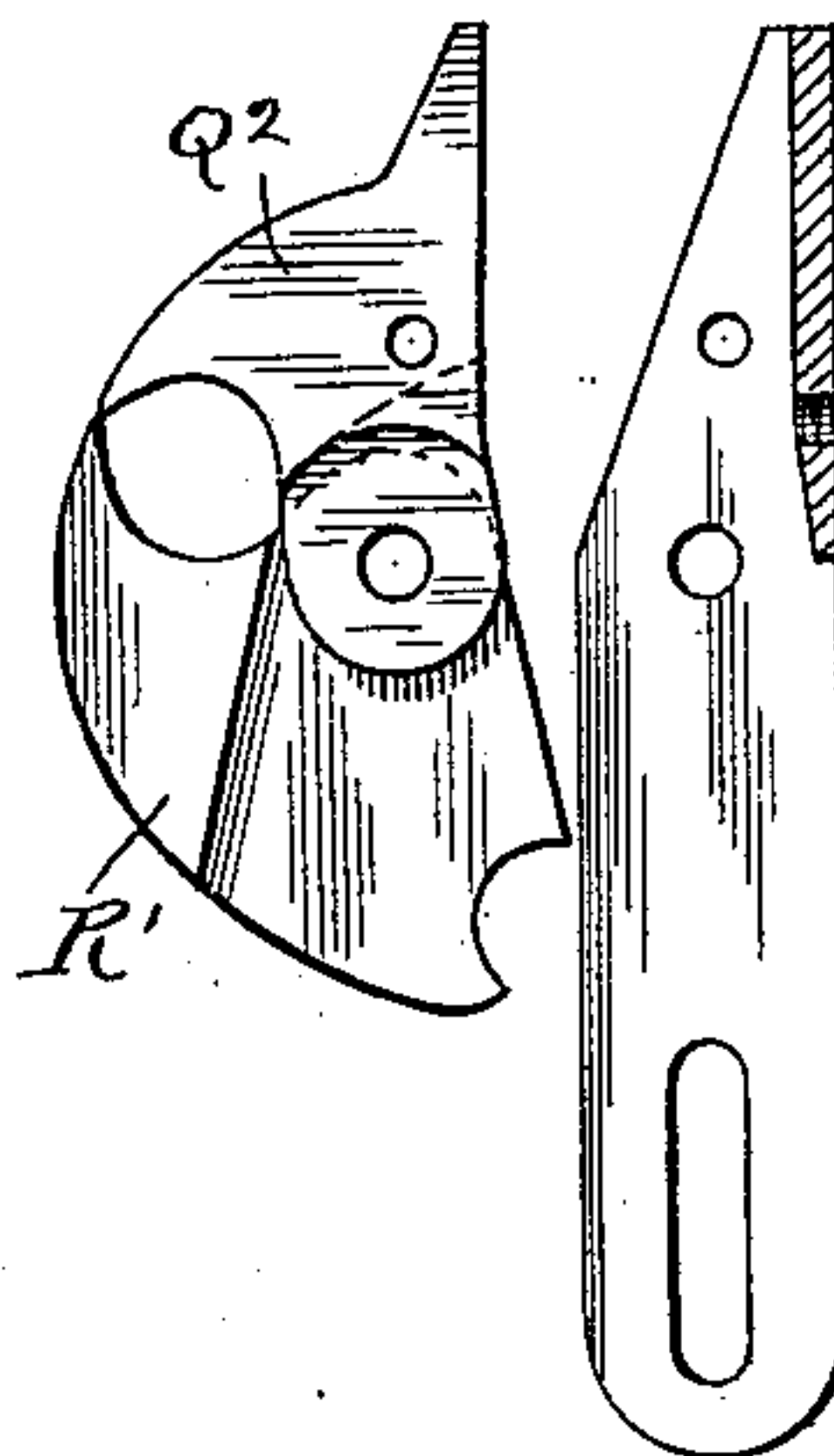
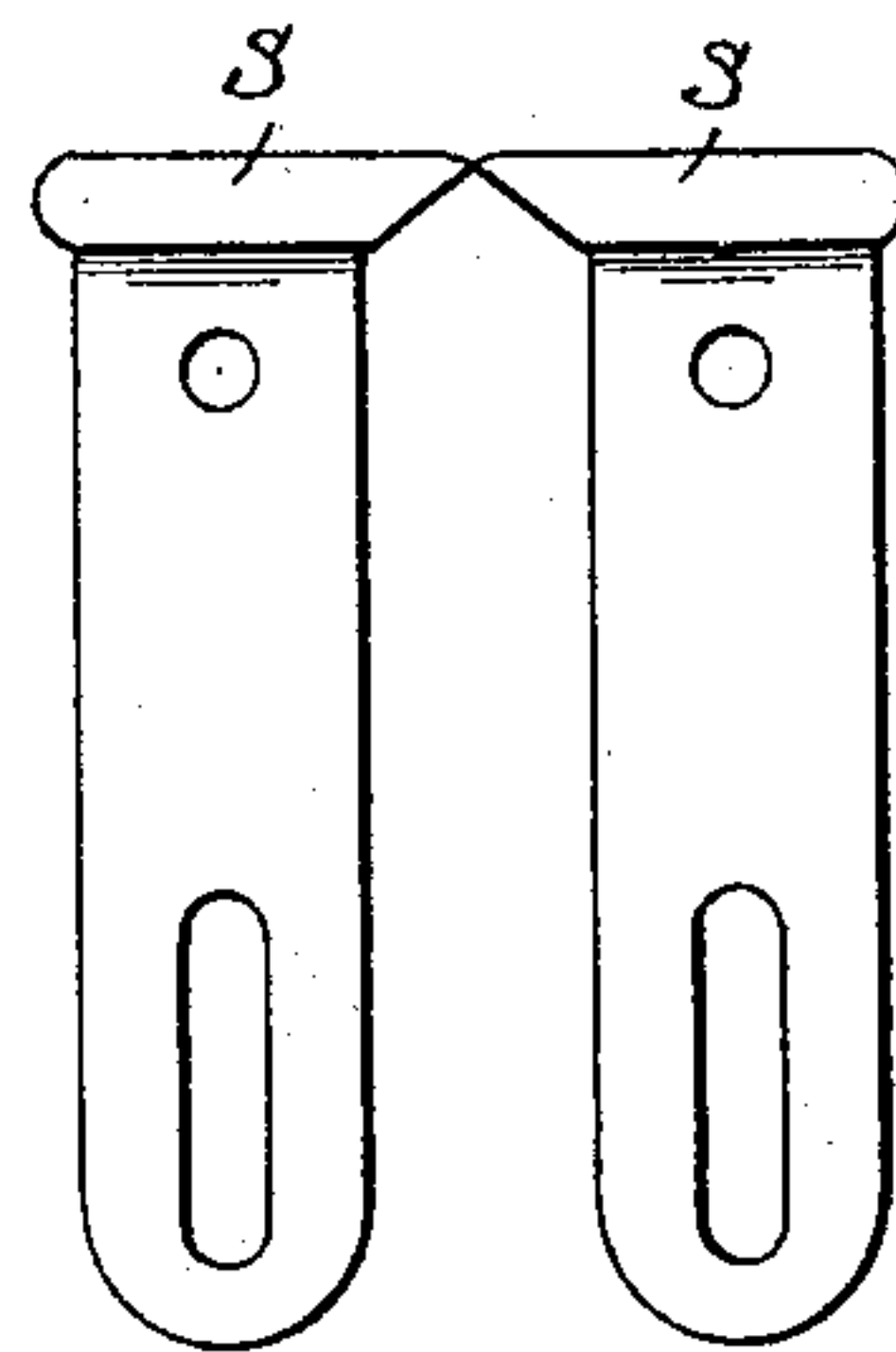


Fig. 6.



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Fig. 7.

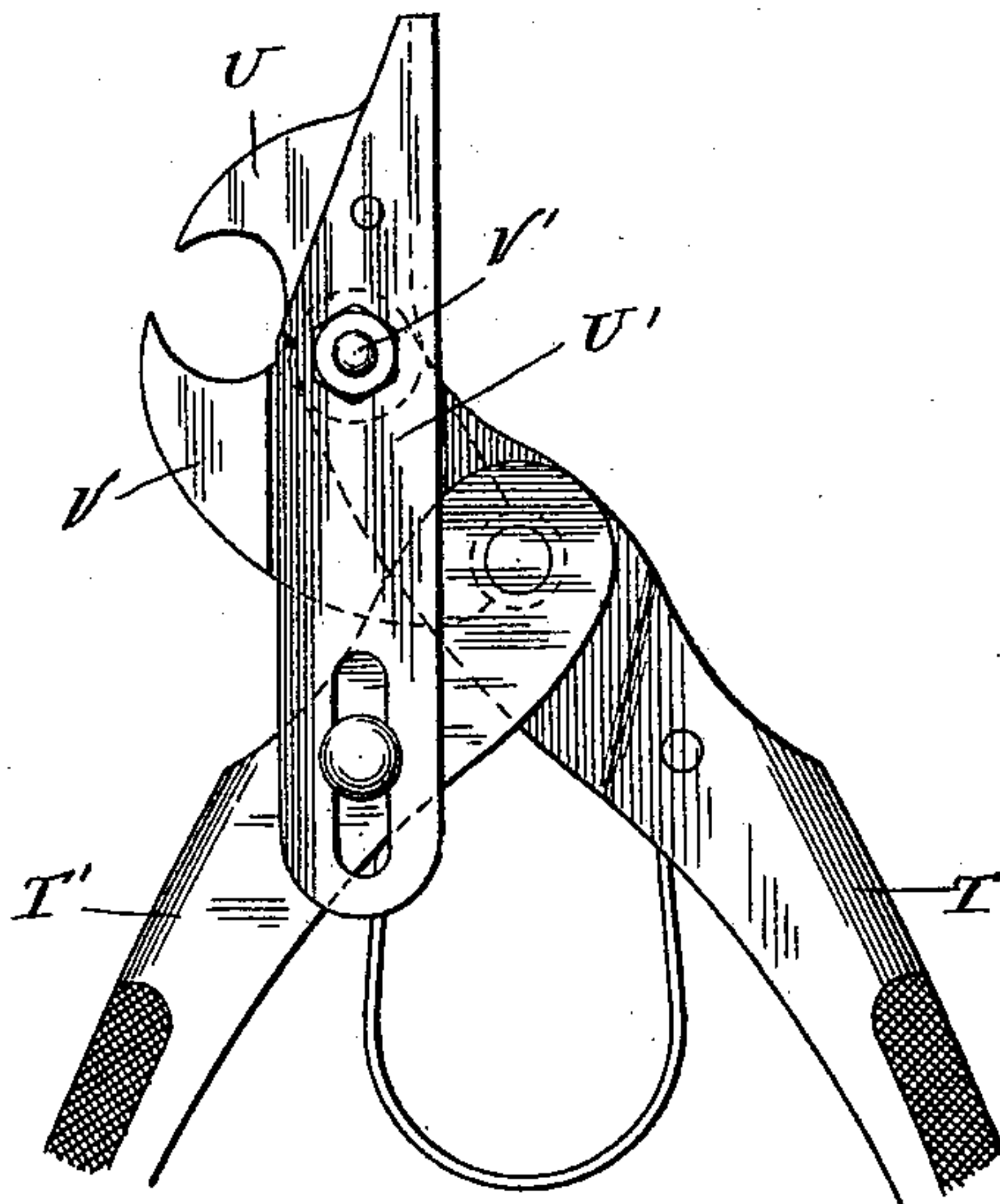
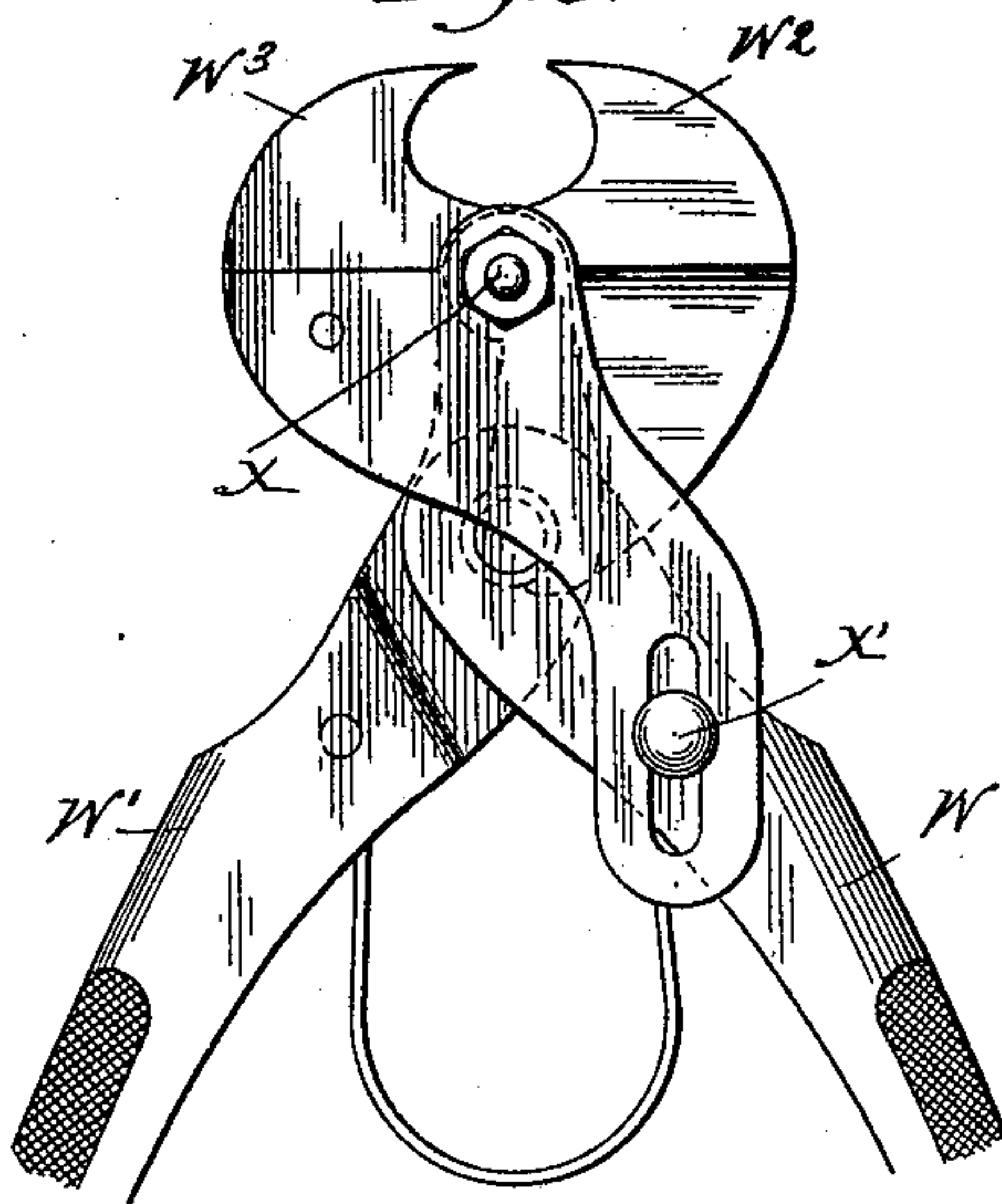


Fig. 8.



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UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 615,955, dated December 13, 1898.

Application filed February 3, 1898. Serial No. 668,991. (No model.)

To all whom it may concern:

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

My invention relates to a new and useful improvement in combined parallel-jaw pliers, cutters, and punches, and has for its object to provide an exceedingly simple and efficient tool of this description, each member of which will accomplish the object of such a tool when made separately and yet in no wise interfere with the operation of the remaining members.

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 a tool made in accordance with my improvement, the jaws being distended; Fig. 2, a lengthwise section thereof; Fig. 3, an edge view of the tool looking toward the die; Fig. 4, a similar view looking from the opposite direction; Fig. 5, a detail of a pair of cut-off jaws adapted for interchanging with the form of jaws shown in Figs. 1 and 2; Fig. 6, a form of cut-off jaws which may be substituted for the parallel jaws; Fig. 7, a modification of my improvement in which the cut-off jaws alone are used, and Fig. 8 a further modification of a similar device.

In carrying out my invention as here embodied, A and B represent the handles of the tool, which are pivoted together by means of the fulcrum-stud C, which passes through the ferrule D and is made stationary in the prongs in the handle B, while the ferrule is made stationary in the prongs of the handle A, and thus the stud turns in the ferrule, affording an extra bearing, which adds rigidity to the tool at this point.

E and F are parallel jaws, the heel ends of

which are pronged, so as to embrace the prongs of the handles, and are pivoted to the outer ends of the handles by the screw-bolts G, and are slidably pivoted to the handles back of their pivot-point by the bolts H and I, the latter having a thumb-nut J run thereon, for the purpose hereinafter set forth. In the movement of the handles the jaws will be kept parallel and yet permitted to move to and from each other by reason of the slots K, as will be readily understood, and a spring L is interposed between the handles and here shown as connected with the bolts H and I for normally forcing said handles outward, and thereby distending the jaws.

A punch is included as a member of the tool and consists of a gooseneck M, which is attached to one of the jaws by the bolt G, passing therethrough, and a pin N, also passing through the jaw and the body of the gooseneck, thus normally holding the same in place between the prongs of the jaws. The punch-pin O is threaded or otherwise secured in the opposite jaw of the tool and passes through a hole in the body of the gooseneck and with the manipulation of the handles is caused to enter the die P, thus affording a convenient means for punching holes in various articles.

A pair of cut-off pliers is formed by the jaws Q and R, the former of which is made stationary with the jaw F of the tool by the bolt G and a pin Q', while the movable jaw R is pivoted upon the bolt G, and the heel end thereof is fitted to the bushing D, as clearly shown in Fig. 2, so as to receive its motion from said bushing when the handles are manipulated. These pliers are such as to be especially adapted for cutting off long lengths of wire, since the wire is presented thereto crosswise or at right angles to the tool; but the jaws shown in Fig. 5 may be substituted for those shown in Figs. 1 and 2, in which case Q² represents the stationary jaw and is held in place in the same manner as the jaw Q, while the jaw R' is substituted for the jaw R and acts in the same manner. These last-named jaws, as will be noted, operate upon the work when presented at right angles to the position of the work when acted upon by the first-named jaw. When it is desired, the parallel jaws E and F may be re-

moved, and the cut-off-plier jaws S (shown in Fig. 6) may be substituted therefor, and this is readily accomplished by the removal of the bolts G, H, and I.

5 In Fig. 7 I have shown a modification in which cut-off pliers alone are utilized, and in this construction the handles T and T' are pivoted together, as before described, while the stationary jaw U is carried by the mem-
10 ber U', and the movable jaw V is pivoted at V' and connected with the bushing in the manner before set forth, thus bringing about the proper movements of the jaws relative to each other and for the performance of the
15 work.

A still further modification (shown in Fig. 8) consists in the handles W and W' being pivoted together, one of which is extended and forms a cut-off jaw W², while the oppo-
20 site jaw W³ is pivoted at X to the first-named jaw and slidably pivoted to the handle W by the bolt X'. This makes a very simple and convenient pair of cut-off pliers when not in combination with the other elements of the
25 tool.

The cross-bar Y is pivoted upon the bolt H, while the bolt I passes through the slot Y', formed therein, so that by the manipulation of the nut J the jaws may be locked in any
30 position, as will be readily understood, and when so locked the tool may be used after the manner of a vise or nut-wrench, the jaws always remaining parallel, and thus greatly facilitating its use.

35 By the construction here shown and described a simple and inexpensive tool is produced, each member of which will properly perform its function without interfering with the function of the remaining members.

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

1. A combination-tool consisting of a pair of handles, each of which is pronged, a ferrule secured within the prongs of one of the
45 handles, a stud passing through the prongs of the other handle and the ferrule and piv-

oting the two handles together, and parallel jaws attached to the handles, as specified.

2. In a tool of the character described, a pair of handles, each of which is pronged at
50 its forward portion, a bushing secured in the prongs of one of the handles, and a stud in the prongs of the other handle and passing through the bushing, substantially as and for the purpose set forth. 55

3. A combination-tool, comprising two handles pronged at their outer ends, a ferrule extending between the prongs of one of the handles, a stud extending between the prongs of the other and through the ferrule, parallel
60 jaws pivoted to the outer ends of the handles and slidably connected to the inner portions thereof, a cut-off jaw made integral with one of the parallel jaws, and a cooperating swinging cut-off jaw pivoted to said parallel jaw
65 and engaging with the ferrule to bring about the proper operation of the cut-off jaws, substantially as described.

4. A combination-tool consisting of two handles pivoted together back of their outer ends,
70 parallel jaws pivoted to said outer ends, bolts for slidably pivoting the inner ends of the parallel jaws to the inner portions of the handles, a spring for normally distending said jaws, a die carried by one of the parallel jaws,
75 and punch-pins carried by the other parallel jaw and adapted to enter said die, a cut-off jaw made stationary with one of the parallel jaws, and a movable cut-off jaw pivoted to the same parallel jaw, the heel end thereof
80 entering into engagement with the pivot of the handles, whereby movement is given thereto when the handles are manipulated, as specified.

In testimony whereof I have hereunto af-
85 fixed my signature in the presence of two subscribing witnesses.

PETER BROADBOOKS.

Witnesses:

G. H. HOLDEN,

FRANCIS L. HAWES.