

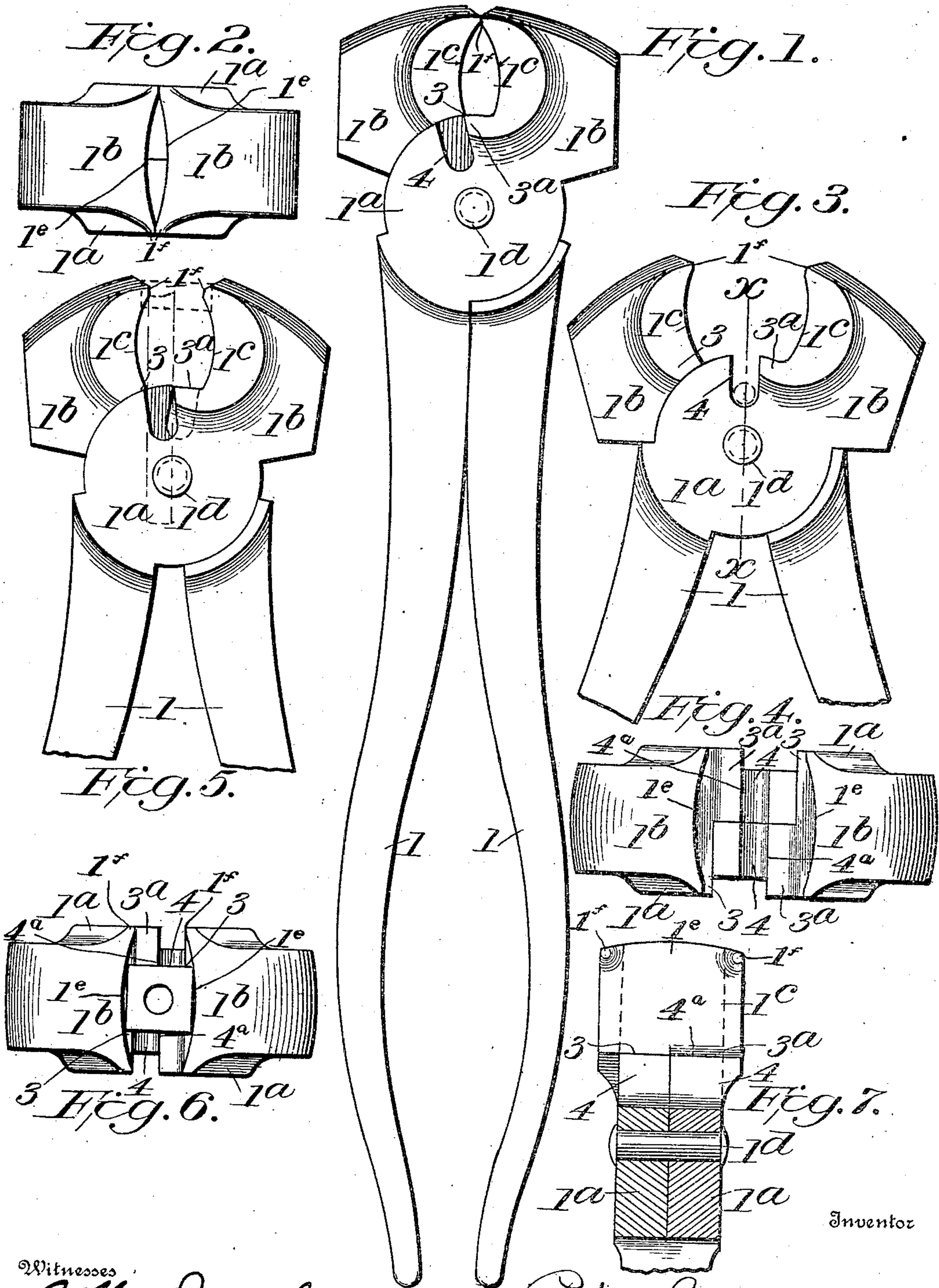
P. BROADBOOKS.

PLIERS.

APPLICATION FILED MAR. 22, 1909.

943,381.

Patented Dec. 14, 1909.



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# UNITED STATES PATENT OFFICE.

PETER BROADBOOKS, OF BATAVIA, NEW YORK.

## PLIERS.

943,381.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed March 22, 1909. Serial No. 485,000.

*To all whom it may concern:*

Be it known that I, PETER BROADBOOKS, of Batavia, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Pliers; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in pliers, especially designed for wire working, and its object is to produce an implement capable of a greater range of usefulness and of more varied offices than the ordinary forms of pliers.

The invention in brief comprises a plier composed of two complementary members, each having a handle, a pivotal portion, and a jaw or head; the jaws are preferably hammer-shaped on their outer faces, and their inner faces are formed with longitudinal and transverse recesses, said recesses intersecting and merging in uniform curves at their intersections, and forming contact points at the outer corners of the inner faces of the jaws, said recesses enable the jaws to grasp and hold larger objects both transversely and endwise than is possible with ordinary pliers. The jaws are also provided on their sides with projecting nippers or cutters adapted to cut wire lying substantially parallel with the plane of the handles; and each pivotal portion is provided with a notch extending inwardly toward its pivot and increasing the shearing capacity of the nippers, and forming wire cutters whereby wires lying at right angles to the plane of the handles can be readily severed.

Pliers constructed in accordance with and embodying the several features of this invention are capable of a greater range of offices and functions than the ordinary pliers and are particularly useful to linemen, electricians, wire-fence makers, and wire workers.

I will now explain the features of the invention in detail with reference to the accompanying drawings which illustrate pliers embodying the invention, similar parts being similarly lettered, and the claims following the detailed description of the drawings summarize the features of construction for which protection is desired.

In said drawings—Figure 1 is a view of the pliers closed. Fig. 2 is a top end view

thereof. Fig. 3 is a detail side view thereof fully opened. Fig. 4 is a top view of Fig. 3. Fig. 5 is a detail side view of the pliers partly opened. Fig. 6 is a top view of Fig. 5. Fig. 7 is a section on line *x—x*, Fig. 3.

The pliers comprise opposite complementary members each having a handle portion 1, a pivotal portion 1<sup>a</sup>, and a jaw or head 1<sup>b</sup>. The pivotal portions 1<sup>a</sup> are preferably circular in plan, and are halved together in the ordinary manner, so that the members intersect and the handles and jaws lie in the same plane as usual. Each jaw 1<sup>b</sup> is preferably hammer shaped as shown, and is provided near the pivotal portion with a transverse recess 1<sup>c</sup> and an intersecting longitudinal recess 1<sup>e</sup>; the recesses merge smoothly at their intersections and they form contact points 1<sup>f</sup> at the outer corners of the inner faces of the jaws, so that the pliers can grasp and hold flat sheets. The recesses 1<sup>c</sup>, 1<sup>e</sup> enable the jaws to grasp headed objects, like nails, bolts, and nuts; and materially increase the grasping and cutting capacity of the jaws, allowing the objects which are to be cut or grasped to be operated on much nearer the pivot 1<sup>a</sup> of the members; this pivot may be a bolt or pin as usual. The jaws 1<sup>b</sup> are further formed or provided with laterally projecting nippers or cutters 3, 3<sup>a</sup>, on their sides, the cutter 3 being formed on one side of the jaw at the junction of such jaw with its pivotal portion, and the cutter 3<sup>a</sup> being formed on the opposite side of the jaw. The cutter 3 of one jaw is opposed to the cutter 3<sup>a</sup> of the other jaw—the cutters 3<sup>a</sup> being formed so as to extend slightly below the cutters 3, so that the inner ends of the pairs of opposed cutters 3, 3<sup>a</sup>, will act to sever a wire.

A notch 4 is formed in each pivotal portion 1<sup>a</sup>, at the base of the jaw 1<sup>b</sup>, and inner end of cutter 3<sup>a</sup>, as shown. These notches increase the cutting capacity of the cutters 3, 3<sup>a</sup>, and enable them to sever wires placed lengthwise of the pliers, as indicated in Fig. 5; and wire placed crosswise of the pliers may be cut in said notches as shown in Fig. 3. The notches 4 also form cutting edges 4<sup>a</sup> at the base of each jaw, such edges being adapted to co-act with the base of the opposed jaw in severing wires. It is obvious that by providing the jaws with integral cutters 3, 3<sup>a</sup>, and also with notches 4, the usefulness of said cutters is greatly increased, as the cutting edges practically ex-



tend the entire width of said jaws, see Fig.

5. Furthermore, by providing said jaws with the notches 4 extending near to the fulcrum, I not only gain greater shearing surface for said cutters for severing wire endwise, but I also gain powerful shearing jaws for cutting off wire crosswise in the notch, thus producing a tool of this character which has more utility than ordinary pliers and wire cutters.

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

1. A pliers comprising a pair of similar complementary members each having an integral handle, a pivotal portion and a jaw, and provided at the side with a laterally projecting cutter adjacent the pivotal portion, and a notch in the pivotal portion adjacent the inner end of the cutter, substantially as described.

2. A pliers comprising a pair of similar complementary members each having a handle, a pivotal portion, a jaw recessed on its inner face next the pivotal portion, an integral laterally projecting cutter on the side of the jaw adjacent the pivotal portion, and a notch in the pivotal portion adjacent the inner end of the cutter, substantially as described.

3. A pliers comprising opposite similar complementary members each having a handle, a pivotal portion, a jaw recessed on its inner face adjacent the pivotal portion, a laterally projecting cutter adjacent the pivotal portion, and a notch in the pivotal portion adjacent the inner end of the cutter, one of said cutters being arranged in advance of the opposed cutter on the opposite jaw.

4. A pair of pliers comprising two similar complementary members each having a handle, a pivotal portion and a main jaw, said pivotal portions being jointly recessed into one another, each member being provided with integral laterally projecting cutters on its sides, one of said cutters being arranged in advance of the other, and a notch adjacent the inner end of said cutters to increase their shearing capacity, whereby the pliers

are adapted to shear wire placed lengthwise of the pliers or placed crosswise of the pliers, substantially as described.

5. A pliers comprising a pair of similar complementary members each having an integral handle, a pivotal portion and a jaw, said jaw being transversely and longitudinally recessed on its inner face and having laterally projecting cutters on its sides adjacent the pivotal portion, substantially as described.

6. A pliers comprising a pair of complementary members each having a handle, a pivotal portion, and a jaw transversely and longitudinally recessed on its inner face and having an integral laterally projecting cutter on each side adjacent the pivotal portion, and said pivotal portion having a notch adjacent the inner end of the cutters, substantially as described.

7. A pliers comprising opposite complementary members each having a handle, a pivotal portion, and a jaw transversely and longitudinally recessed on its inner face and having laterally projecting cutters on its opposite sides, and a notch in the pivotal portion adjacent the inner end of the jaw, the inner end of one of said cutters being arranged in advance of the other.

8. A pair of pliers comprising two complementary members each having a handle, a pivotal portion and a main jaw, said pivotal portions being jointly recessed into one another, each jaw being transversely and longitudinally recessed on its inner face and having integral laterally projecting cutters on its sides, one of said cutters being arranged in advance of the other, and each of said pivotal portions having a notch adjacent the inner ends of said cutters to increase their shearing capacity, substantially as described.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

PETER BROADBOOKS.

Witnesses:

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