

(No Model.)

W. A. BERNARD.
COMBINED PLIERS AND CUTTER.

No. 479,113.

Patented July 19, 1892.

Fig. 1.

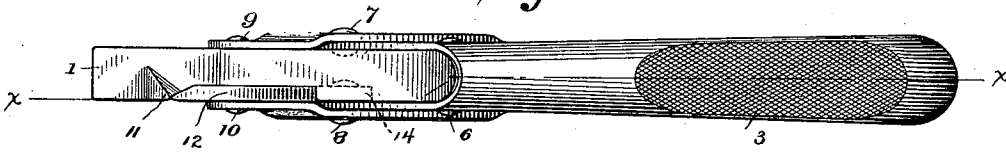


Fig. 2.

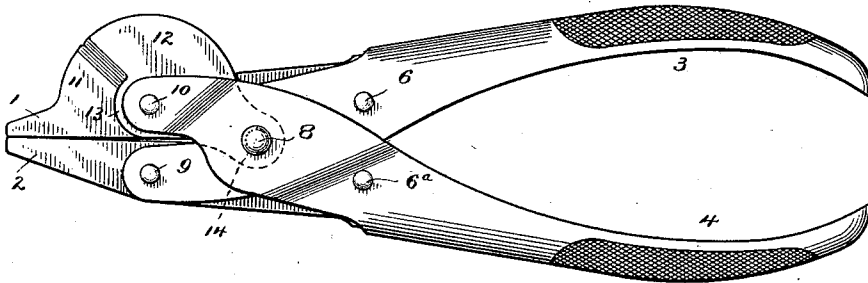


Fig. 3.

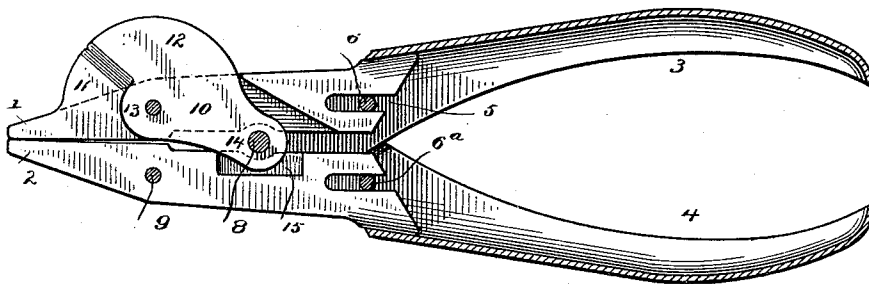
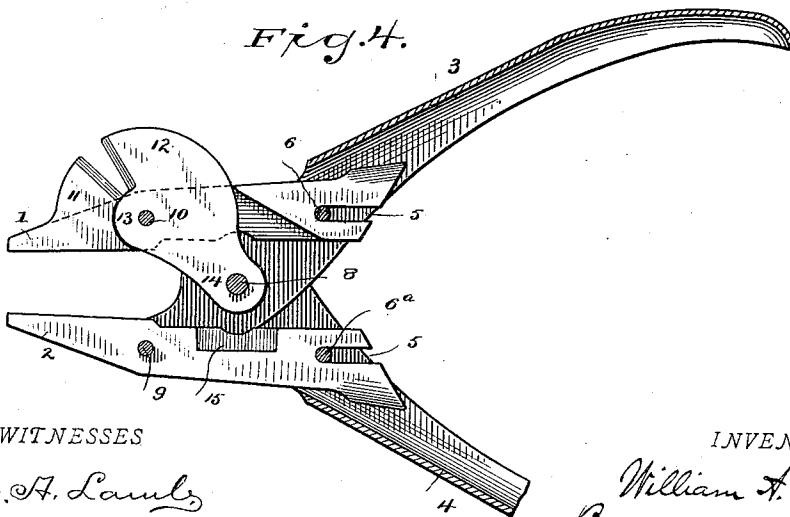


Fig. 4.



WITNESSES

H. F. Lamb
Edith G. Ely.

INVENTOR

William A. Bernard
By A. M. Wooster
att.

UNITED STATES PATENT OFFICE.

WILLIAM A. BERNARD, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE
WILLIAM SCHOLHORN COMPANY, OF SAME PLACE.

COMBINED PLIERS AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 479,113, dated July 19, 1892.

Application filed December 9, 1891. Serial No. 414,480. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. BERNARD, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Combined Pliers and Cutter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in combining with the open-throat and parallel-jaw pliers for which Letters Patent were granted to me May 6, 1890, No. 427,220, a wire-cutter so constructed that enormous compound leverage is brought to bear with comparatively slight exercise of power, the tool being equally adapted for use either as a plier or cutter and the cost being but slightly increased.

With this end in view I have devised the simple and novel construction which I will now describe, referring by numbers to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an edge view of my novel tool, the cutter being toward the front; Fig. 2, a plan view; Fig. 3, a section on the horizontal plane, showing the plier-jaws and cutting-jaws in the closed position; and Fig. 4 is a similar view showing the jaws in the open position.

1 and 2 denote the plier-jaws, and 3 and 4 the handles, which are constructed substantially as in my said former patent. The bases of the jaws are provided with slots 5. 6 and 6^a denote pivots which pass through the opposite sides of the handles and through these slots.

7 and 8 denote the pivots on opposite sides of the throat, which form the main fulcrums of the tool, and 9 and 10 the pivots which pass through the front ends or operative portions of the handles and through the jaws. It will be apparent that the object in having separate pivots on opposite sides of the throat is to leave the throat open. So far as the general operativeness of the tool is concerned, a single pivot extending from side to side may be used instead of separate pivots. This being an obvious change and within the prov-

ince of any mechanic is not deemed to require illustration.

11 and 12 denote the cutting-jaws. Jaw 11 is formed upon the outer face of plier-jaw 1, said cutting-jaw lying at an angle to the operative face of the plier-jaw. The inner portion of cutting-jaw 12 is recessed into plier-jaw 1, said cutting-jaw being provided with a boss 13, lying in the recess through which pivot 10 passes. The shank 14 of cutting-jaw 12 extends inward, and pivot 8, which connects the handles on that side, passes through it. A recess 15 is provided in jaw 2, which receives the inner end of the shank in the closed position, as clearly shown in Fig. 3.

When used as pliers, the operation is precisely the same as in my said former patent. Its operation as a cutter will be readily apparent. It will be seen that power is applied to cutting-jaw 12 through its rear fulcrum—*i. e.*, pivot 8—and also to cutting-jaw 11 through its rear fulcrum—*i. e.*, pivot 6—and that as the cut proceeds the rear fulcrums of the two cutting-jaws move toward each other—that is, approach nearer to an imaginary line extending backward from pivot 10 and lying midway between the rear fulcrums of the cutting-jaws in the open position. The effect of this movement is to cause the cutting-jaws to act with an accelerated or increased power, so that in use the power is greatest where it is most needed. It is obvious that as the cutters go deeper into a wire the cut is longer and more power is required to move the jaws. The desired result is perfectly accomplished by the compound leverage applied through the moving rear fulcrums, as described. As a matter of fact, heavy wire can be cut with this tool with an even pressure and with great ease. Much larger wire, in fact, can be cut with this tool than with any tool of even size known to the trade.

Having thus described my invention, I claim—

1. The combination, with the jaws, handles, and pivots 6, 6^a, 7, 8, 9, and 10 of parallel-jaw pliers, of a cutting-jaw 11, formed upon the back of one of the plier-jaws, and a cutting-jaw 12, pivoted on 10 and having a shank pivoted on 8.

2. The combination, with the handles, jaw

2, jaw 1, having a cutter 11, and pivots 6, 6^a, 7, 8, 9, and 10, of cutting-jaw 12, recessed into jaw 1 and pivoted on 10 and having a shank pivoted on 8.

5 3. The combination, with the handles and jaws 1 and 2, having slots 5, said jaw 1 having a cutting-edge 11 and jaw 2 having a recess 15, and pivots 6, 6^a, 7, 8, 9, and 10, of cutting-jaw 12, recessed into jaw 1 and having a
10 boss through which pivot 10 passes and a

shank through which pivot 8 passes, the end of said shank in the closed position lying in recess 15.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. BERNARD.

Witnesses:

F. J. SCHOLLHORN,
HENRY STALEY.