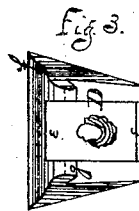
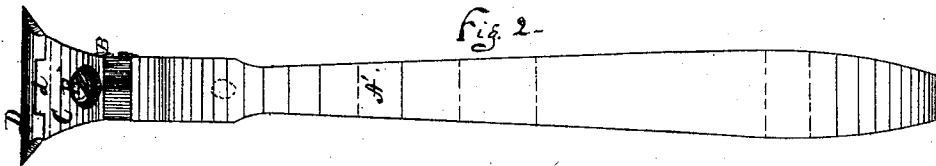
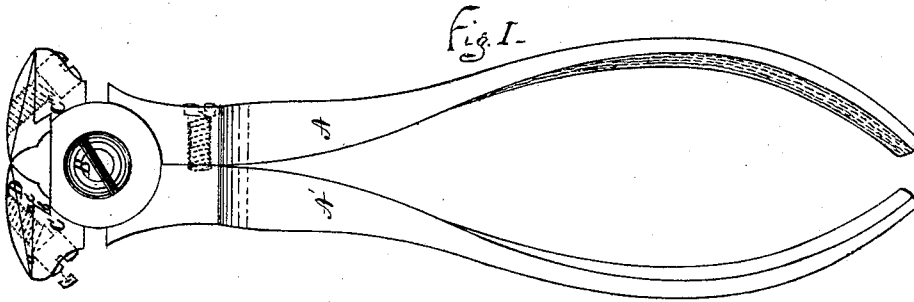


F. A. ADAMS.

Improvement in Cutting-Nippers.

No. 132,191.

Patented Oct. 15, 1872.



Witnesses.
Henry Quinn
Meadore Wood

Inventor
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UNITED STATES PATENT OFFICE.

FREDERICK A. ADAMS, OF SHELBURNE, MASSACHUSETTS.

IMPROVEMENT IN CUTTING-NIPPERS.

Specification forming part of Letters Patent No. 132,191, dated October 15, 1872.

To all whom it may concern:

Be it known that I, FREDERICK A. ADAMS, of Shelburne, in the county of Franklin and State of Massachusetts, have made certain new and useful Improvements in Cutting-Nippers, whereof the following is a specification, reference being had to the drawing, in which—

Figure 1 is a side view of my nippers; Fig. 2 is an edge view of the same; and Fig. 3 is a bottom view of one of the removable cutters thereof, both of which are alike.

My invention relates to that class of nippers which have removable cutters. Such cutters are usually fastened to the jaws by a dovetail and a screw; and my improvement consists in so locating the screw that turning the same shall tighten the cutter and jaw together on both surfaces of the dovetail; and further, in constructing the cutter and jaw with a flange or projection, and a corresponding depression placed at an angle from the cutting-edge, so that cutting with one end of the cutting-edge shall not force the other end out of the dovetail, but the flange shall receive the strain, thereby holding the parts together firmly and preventing looseness.

In the drawing, A and A' represent the handles fastened together by a pivot-screw, B. C and C' are the jaws which are part of the handles. To the jaws are fastened similarly two cutters, which are alike, one of which, D, is fastened to the jaw C by the screw E, and by the dovetail having its angle at c, the junction of surfaces on each side of said angle being designated by the letters a and b respectively. d is the projection or flange, and e its corresponding depression or socket, into which it fits. I have put the flange d on the jaw and the socket e in the cutter, though the flange may equally well be placed on the cutter and the socket in the jaw. The screw E in my nippers has its axis either cutting or parallel to some line cutting the angle of the dovetail at c. The drawing force of the screw E, running through the cutter and jaw, is in the direction of its axis; therefore it will be

seen from the law of the resultant of forces that if said axis, representing the line of direction of the screw's force, is either identical with or parallel to any line cutting the angle c, then the tendency of said force, when the screw is tightened, is to draw together the surfaces of the cutter and jaw, meeting both in the line a and in the line b, while in any other arrangement of said screw fastening the jaw and cutter together tightening, it would have a tendency to draw together said surfaces meeting in one line, a or b, and to separate said surfaces meeting in the other line b or a. Furthermore, it is evident that if the edge of the cutter, as at f, be used, it has a tendency to twist the cutter on the screw, and if there is the least play or looseness (which always comes from wear) the part in the dovetail of the opposite end of the cutter, as at g, would be forced away from its seat in the dovetail, and the cutter might wear and become loose from such action. This difficulty I obviate by the flange d fitting in and held by its socket e, which flange may be at any angle to the cutting-edge, and which receives the strain and holds said part g firmly in its seat.

In this specification the term "dovetail" has been used for brevity instead of the term "half-dovetail."

What I claim, and desire to secure by Letters Patent, is—

1. The arrangement of a screw, E, fastening together the cutter and jaw, having its axis in the same direction as a line cutting the angle at c, as described.

2. A projection or flange, d, combined with and fitting in a depression, e, the one in or on the jaw and the other in or on the cutter, when said flange or projection and depression are arranged at an angle to the cutting-edge of the cutter, for the purposes described.

FREDERICK A. ADAMS.

Executed in presence of—

HENRY WINN,
A. K. HAWKS.