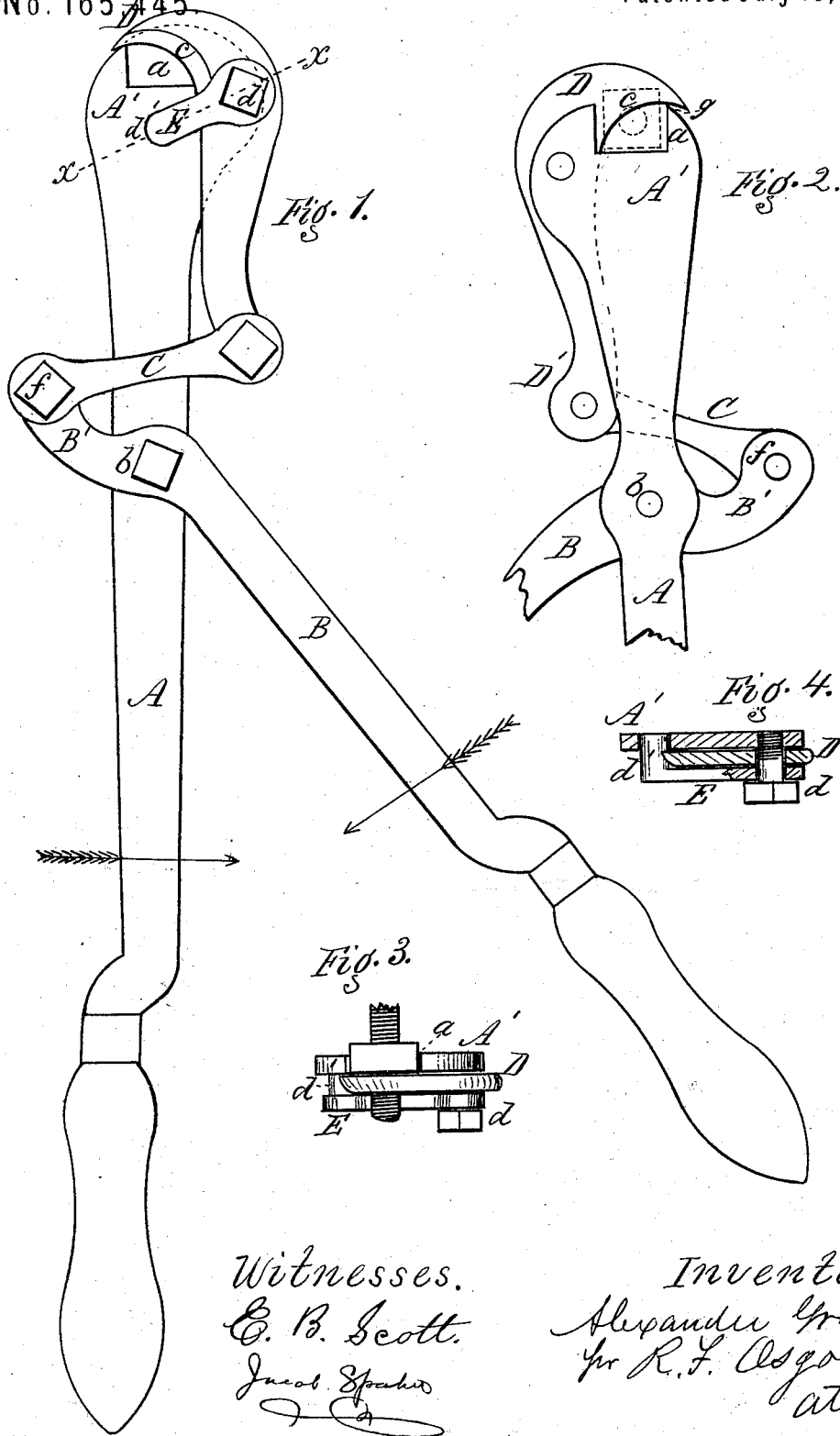


A. GRAHAM.
Bolt-Trimmer.

No. 165,445

Patented July 13, 1875.



Witnesses.
C. B. Scott.
Jacob Spacher

Inventor.
Alexander Graham,
per R. F. Osgood,
att'y.

UNITED STATES PATENT OFFICE.

ALEXANDER GRAHAM, OF MUMFORD, NEW YORK.

IMPROVEMENT IN BOLT-TRIMMERS.

Specification forming part of Letters Patent No. **165,445**, dated July 13, 1875; application filed April 21, 1874.

To all whom it may concern :

Be it known that I, ALEXANDER GRAHAM, of Mumford, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Bolt-Trimmers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same:

This invention relates to certain improvements in bolt-trimmers of that class which are constructed of two levers pivoted together, one of said levers being provided at its enlarged end with a cavity for receiving and holding the nut of the bolt, and the other being provided with a convex cutter-head for trimming off the projecting end of the bolt.

My invention consists in the combination of a lever having a cavity or socket for holding the nut, a cutting-blade having a cutting-edge, and a yoke or stirrup embracing the cutting-blade, and made adjustable by a set-screw for making the blade cut or shear close to its cutting-face, and regulating its pressure, as hereinafter described.

In the drawings, Figure 1 is an elevation. Fig. 2 is a similar view, looking on the opposite side. Fig. 3 is an end view, showing a nut in the socket, and the bolt in the act of being trimmed or cut. Fig. 4 is a section in line *xx* of Fig. 1.

A represents the main lever or jaw, having an enlarged head, A', at the top, in which is cut a square socket or notch, *a*, of sufficient size to receive an ordinary nut, as shown by dotted lines in Fig. 2, and black lines in Fig. 3. B is the supplementary lever or jaw, which is pivoted at *b* to the main lever, and has a short arm, B', extending beyond. C is a connecting-rod, pivoted at opposite ends to the arm B' and end D' of the cutter or blade D. The blade is made of curved or hooked form, with a sharp edge, *c*, and is so arranged as to move across or over the socket *a* and against the plane-face of the head A'. E is a yoke or stirrup in the form of a loop, which incloses the blade, and is made of such length as to

allow the blade the proper sweep in opening or closing. For this purpose the head A' is made enlarged, as shown, so as to present considerable breadth, and the yoke has double bearings *d d'*, which pass through holes formed in the head. The bearing *d'* is simply a rivet or stud, but the bearing *d* is a headed screw which forms the pivot of the blade, passing loosely through the yoke and the blade and screwing into the head A', thereby enabling the yoke to be clamped up against the blade to keep it in place, and in close contact with the face over which it cuts.

The operation is as follows: The socket *a* is inserted over and made to embrace the nut of the bolt, as shown in Figs. 2 and 3, thereby bringing the edge of the blade against the bolt, close up to the nut. The levers A B are then closed together, which causes the blade to cut across the blank *a*, and thereby trim off the bolt. The yoke E serves the important purpose of a guide and stay to keep the cutter in place under its heavy strain. The double bearings *d d'* allow it to be made of desired length and of portable form, so that it may be inserted, tightened up, or removed at pleasure, and thus form a clamp to the blade, which is adjustable in its pressure, and is made to shear close to its cutting-face.

I am aware that the recess formed in the main bar for holding the nut, and the arrangement of the operating levers, are not new; but

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

The combination of the lever A, provided with the recess *a* for holding the nut, with the cutting-blade D and adjustable yoke E, constructed and arranged to operate as set forth.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

ALEX. GRAHAM.

Witnesses:

WM. POOLE,
WM. FOOTE.