A. W. GRAY.

Bolt or Rod Cutters.

No. 157,990. Patented Dec. 22, 1874.

Fig. 1.

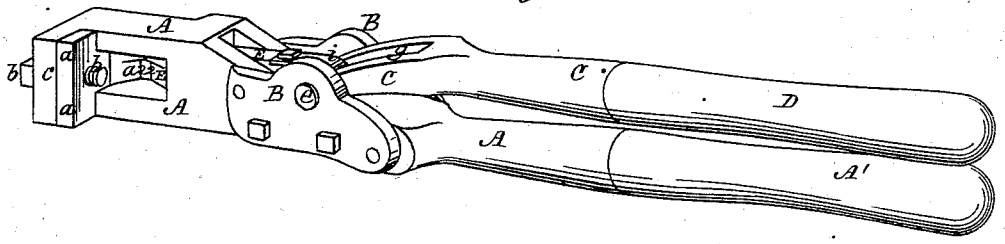


Fig. 2.

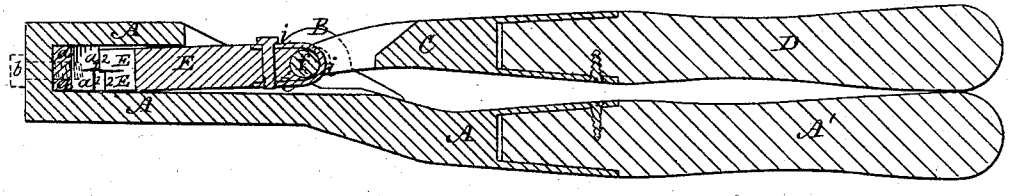
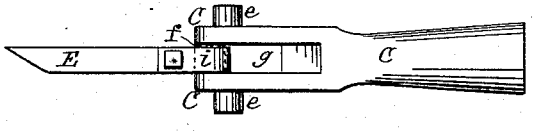


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT W. GRAY, OF MIDDLETOWN, VERMONT, ASSIGNOR OF ONE-HALF TO ALBERT Y. GRAY, OF SAME PLACE.

IMPROVEMENT IN BOLT OR ROD CUTTERS.

Specification forming part of Letters Patent No. **157,990**, dated December 22, 1874; application filed July 2, 1874.

To all whom it may concern:

Be it known that I, ALBERT W. GRAY, of Middletown, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Bolt-Cutters; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents, in perspective, the tool or instrument complete and ready for use. Fig. 2 represents a section through the same, and Fig. 3 represents a detached portion, to show the journals and crank wrought on the moving lever.

My invention relates to a tool or instrument for cutting off the ends of bolts or other pieces of metal, in which the rigid body or handle is provided with a stationary cutter and a removable plate, in combination with a movable cutter and working-lever, attached directly thereto. It further relates to the combination of the recessed shears or cutters, one movable and the other stationary, with the movable and stationary levers, as will be explained.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The stationary part of the instrument is shown at A, and in a recess or opening in the extreme end of this part is arranged a stationary cutter, *a*, which is held in place by a set-screw, *b*, and which cutter may be moved up as it is worn away by use, by a shim placed behind it, and between it and the end *c* of the stationary or bed portion of the instrument, the screw *b* passing through said end, through the shim, and through or into the cutter or shear *a*. The rear of the stationary part A has a socket in or on it, into which a wooden handle, A′, is inserted. Upon opposite sides of this stationary piece A are cheeks B B, in which the journals *e e* of the movable lever C are supported, and at the end of this movable lever there is a crank-pin, *f*, with a slot or opening, *g*, extending rearward therefrom. This movable lever, as far back as where the wooden handle D fits into its socket, together with the journals *e* and crank-pin *f*, are all wrought in one piece. The movable shear or cutter is shown at E. It is connected to the crank-pin *f* of the moving lever C by a strap or bow, *i*, which firmly holds it to said lever but allows it such play as may be necessary in its movements to and from the stationary shear or cutter *a*, and to accommodate itself to the circuit of the crank-pin moving about the journals *e* as a center of motion. The shears or cutters *a* E have each two cutting-edges, as shown at 1 1 and 2 2, Fig. 2, the object being to be able to cut off larger-sized bolts without moving the lever C through so great a sweep to open a wide space between the cutters, in which position its greatest power is not most applicable or available. With the recessed cutting-edges a large bolt or piece of metal may be partially severed by the cutters 2 2, and without much sweep or motion of the lever C, and then completely severed between the cutting-edges 1 1 by a no greater sweep of the lever A, and with its greatest power of action in both cases. In the use of these instruments in cutting off carriage-bolts, it is not always practical or convenient to spread the levers to any great extent to take in a larger bolt, as they are often in contracted places, difficult of access; but by having the cutters recessed, as herein described, the various-sized bolts used can be severed by a slight sweep of the moving lever.

Having thus fully described my invention, what I claim is—

1. The rigid body and handle A, provided with the stationary cutter *a* and removable plate B, in combination with the movable cutter E and working-lever C attached directly thereto, as shown and described.

2. In combination with the movable and stationary parts C A and their appliances, as herein described, the recessed cutting-edges 1 1 and 2 2, for cutting off larger bolts without so much sweep of the moving lever, as described and represented.

ALBERT W. GRAY.

Witnesses:
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