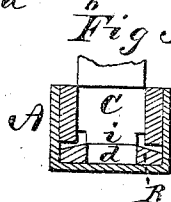
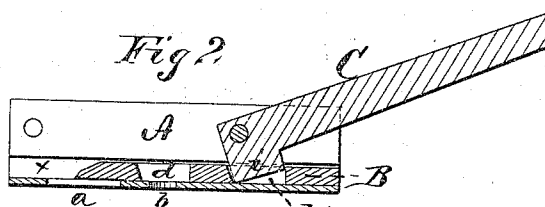
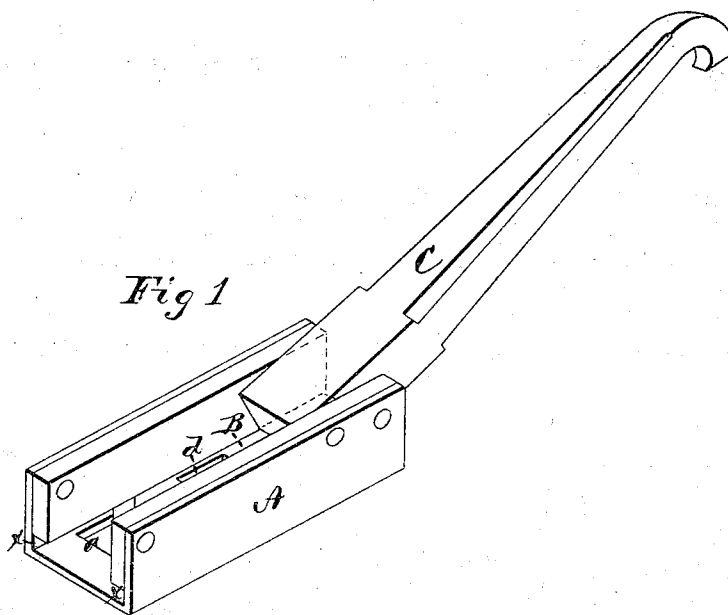


W. WARDWELL & W. WING.

Bolt and Rivet Cutters.

No. 147,716.

Patented Feb. 17, 1874.



WITNESSES,
Francis L. Outland
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By

INVENTOR.

Warren Wardwell.
Warren Wing.
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UNITED STATES PATENT OFFICE.

WARREN WARDWELL AND WARREN WING, OF MOUNT PLEASANT, MICH.

IMPROVEMENT IN BOLT AND RIVET CUTTERS.

Specification forming part of Letters Patent No. **147,716**, dated February 17, 1874; application filed January 12, 1874.

To all whom it may concern:

Be it known that we, WARREN WARDWELL and WARREN WING, of Mount Pleasant, in the county of Isabella and in the State of Michigan, have invented certain new and useful Improvements in Bolt-Cutters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a bolt and rivet cutter, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a perspective view of our machine. Fig. 2 is a longitudinal vertical section, and Fig. 3 a transverse vertical section, of the same.

A represents a rectangular box, of any suitable dimensions, having open ends and top. In the bottom of the box A is a square hole, *a*, and a round hole, *b*. In each side of the box A, at the bottom, is a longitudinal groove, *x*, in which the knife or cutter B is placed, and moved backward and forward by a lever, C. The knife B is provided with two holes, *d d*, of suitable size, to receive a projection, *i*, formed on the inner end of the lever C. This lever is pivoted in the sides of the box A, near the rear end, as shown.

For cutting rivets, the projection *i* is placed in the front hole *d* of the knife, and the rivet held in a vise the same as it would be if inserted in the place where it is to be used. The rivet is then passed through the round hole *b* in the bottom of the box. By now bearing down on the lever C, the knife is moved forward, cutting the rivet.

For cutting bolts, the projection *i* of the lever is placed in the rear hole *d* of the knife. The burr is placed in the square hole *a* in the bottom of the box, and the lever pressed down, which cuts the bolt off.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the box A, having holes *a b* and grooves *x x*, the knife B, having holes *d d*, and the lever C, provided with the projection *i*, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing, we have hereunto set our hands this 21st day of October, 1873.

WARREN WARDWELL.
WARREN WING.

Witnesses:

CHAS. P. AYLING,
AMOS E. WOODIN.