

(No Model.)

W. WOOLGAR.  
BOLT CUTTER.

No. 459,620.

Patented Sept. 15, 1891.

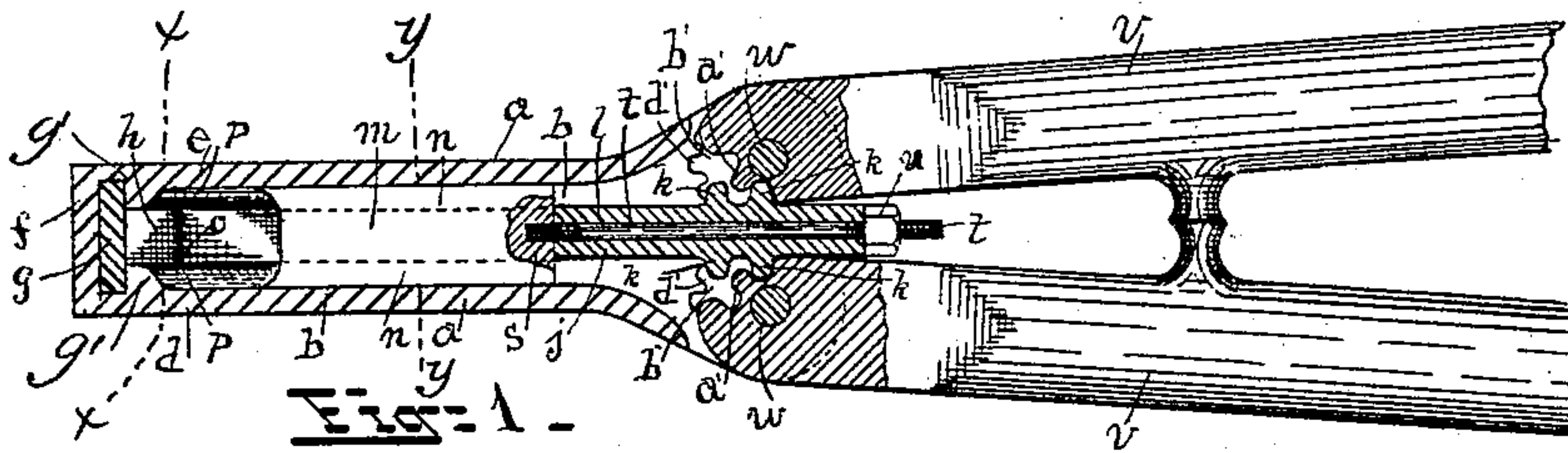


Fig. 1 -

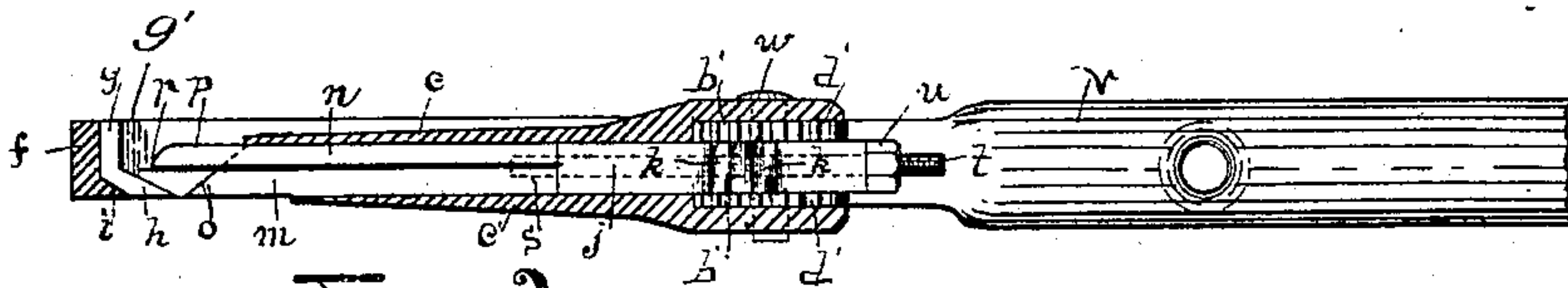


Fig. 2 -

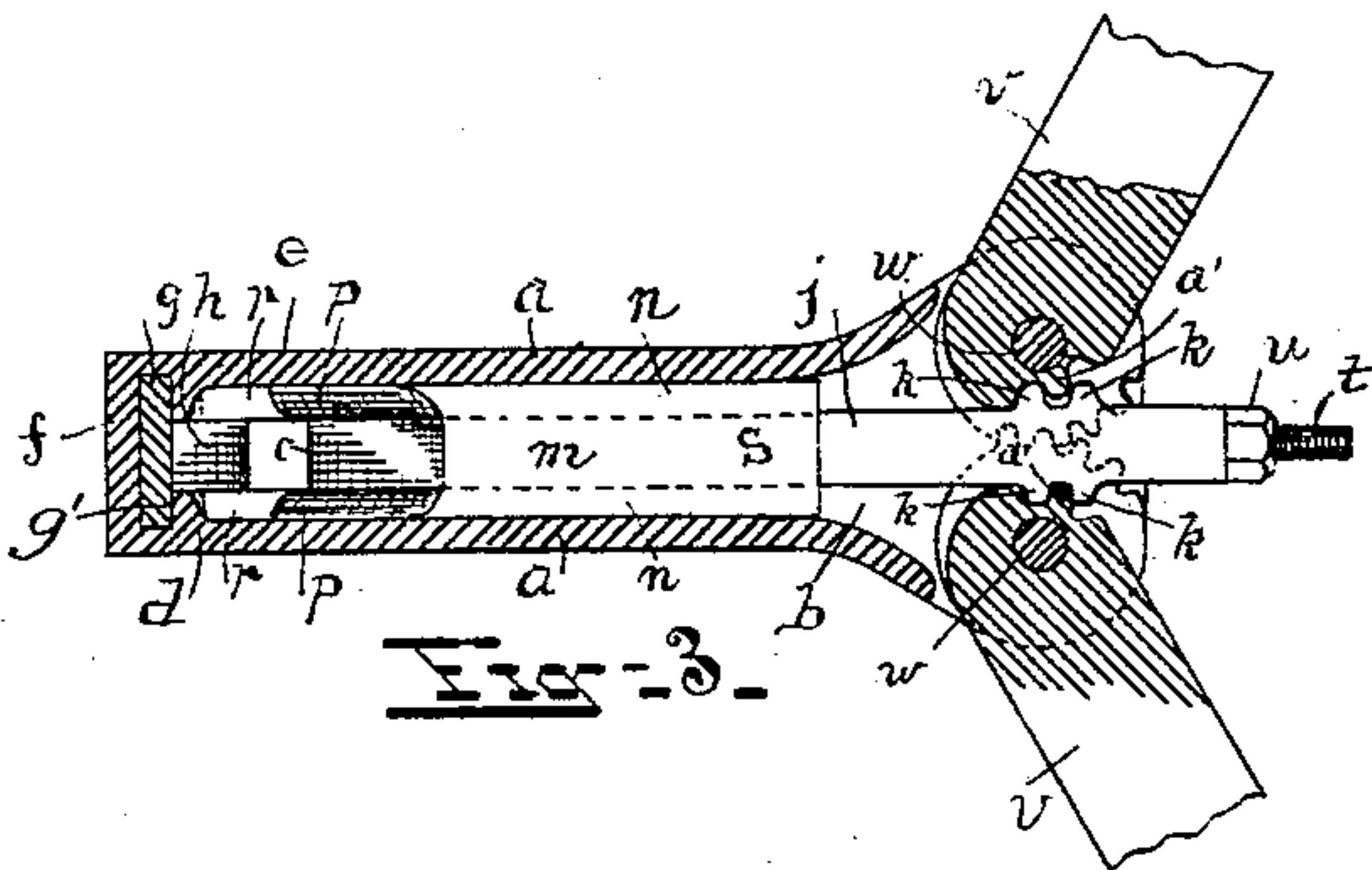


Fig. 3 -

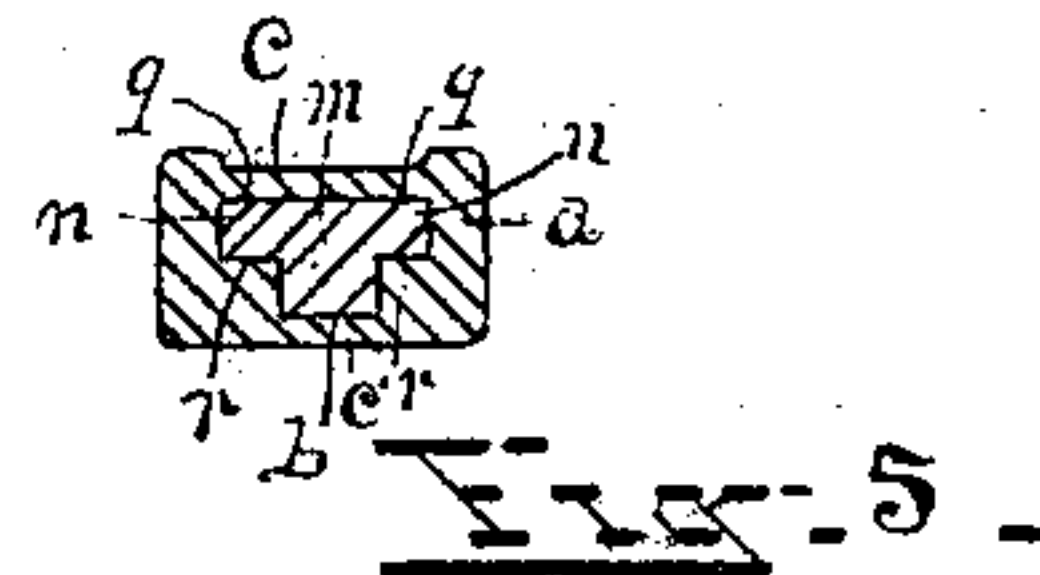


Fig. 5 -

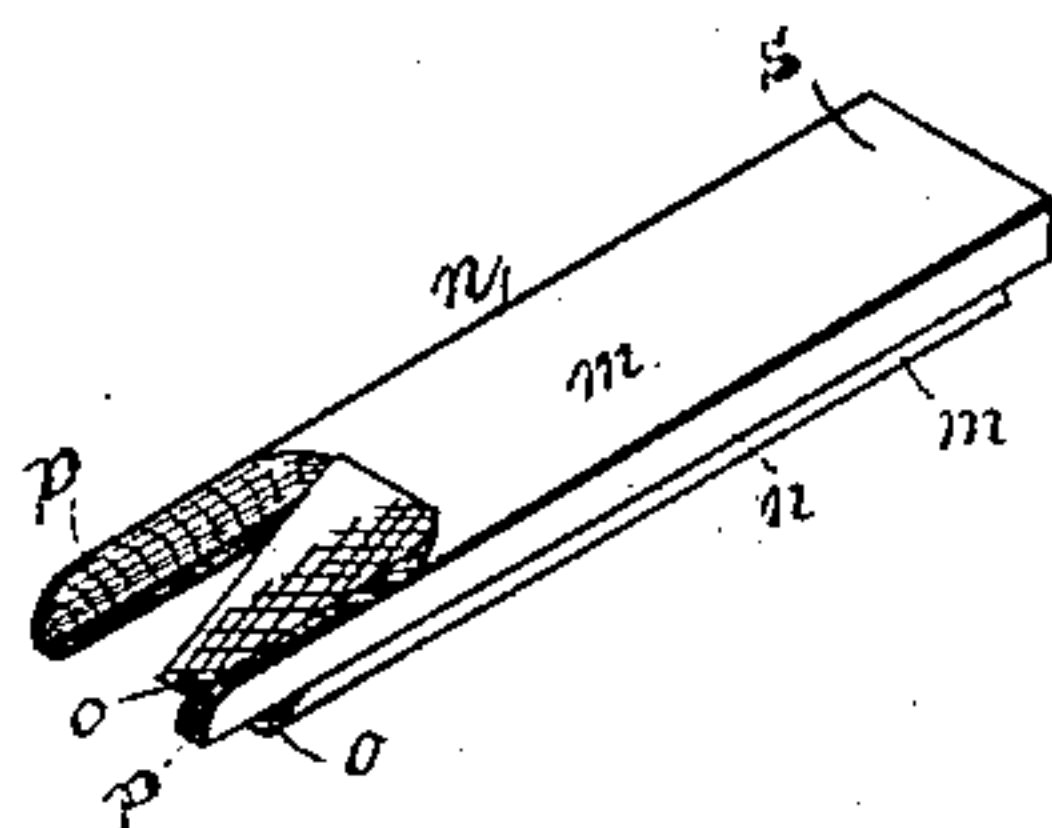


Fig. 4 -

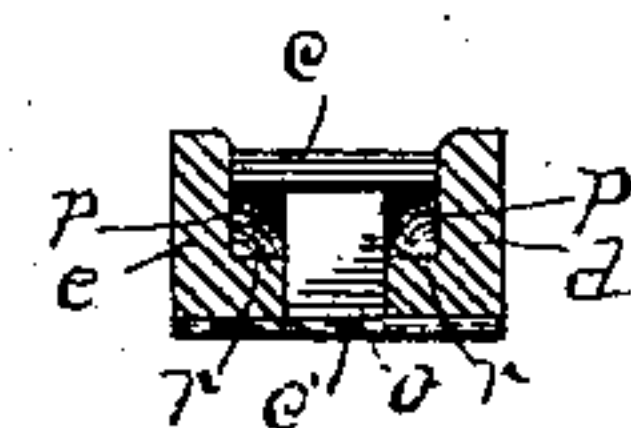


Fig. 6 -

ATTEST:

J. C. Thomas  
*[Signature]*

INVENTOR:

William Woolgar.  
By Jas. C. Thomas.  
Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM WOOLGAR, OF EAST SAGINAW, MICHIGAN.

## BOLT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 459,620, dated September 15, 1891.

Application filed June 10, 1889. Serial No. 313,659. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WOOLGAR, a citizen of the United States, residing at East Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Bolt-Cutters; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to devices for cutting off the ends of carriage-bolts, rivets, &c., and is designed, especially, as an improvement on the devices for which Letters Patent of the United States No. 362,137 were granted to me on May 3, 1887; and it consists, chiefly, in the form and construction of the reciprocating knife and in the combination and arrangement of the several parts, which I hereinafter fully explain, and definitely point out in the claims.

The objects of my invention are to provide a means of supporting and retaining the knife in position when it is subjected to a heavy strain in cutting and to provide a machine for cutting the ends of bolts, rods, rivets, &c., that will be strong and durable and that may be cheaply constructed and repaired. I attain these objects by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal longitudinal section of my improved machine, showing the knives meeting each other after the cutting operation. Fig. 2 is a vertical section of the same. Fig. 3 is the same as Fig. 1, with the reciprocating knife drawn backward. Fig. 4 is a view in perspective of the improved knife. Fig. 5 is a front view of the same with section of casing at *y y*, Fig. 1. Fig. 6 is a section taken at *x x*, Fig. 1.

*a* represents the casing or holder, and *b* is a longitudinal chamber, the rear end of which is open, while the lateral side portions *d* and *e* of the front end of the casing extend beyond the upper and lower portions *c* and *c'* thereof and are joined to an end portion *f*.

*g* is the shank of a fixed knife resting against the inner side of the end *f*, and *h* is a

knife portion extending rearwardly from the bottom of the shank, while *i* is a portion of the lower inner edge of the part *f*, extending rearwardly beneath the heel of the knife, which is cut away and fitted to bear upon the projection, so that a support is given thereby to the knife against a downward strain when cutting. Lugs *g'* of the casing also serve to hold the stationary knife.

*j* is a block fitted to pass into the rear end of the chamber *b*, and is provided on its lateral sides with projecting teeth *k* and is provided with a central longitudinal opening *l*, and *m* is a knife-block provided on the upper portion of its lateral sides with longitudinal ribs *n*, and the middle portion of the front end is cut away to form the knife *o*, having its edge coincident with the lower side of the block, while the ribs *n* are left with the portions *p* extending beyond the edge of the knife. The upper portions of the lateral sides of the chamber *b* are provided with grooves *q* to receive the ribs *n*, and these grooves form the slides *r*, which are continued along the inner sides of the portions *d* and *e*, and the block is placed in position with its rear end *s* resting against the front end of the block *j*, and is held in position by a bolt *t*, passing through the opening *l*, and with its front end tapped into the knife-block, while on the rear end, which projects beyond the block *j*, is a nut *u*, which holds the parts firmly together.

*v* are levers with one end pivoted at *w* to the lateral sides of the casing, the upper and lower portion of which projects outwardly to receive the pivots, and the inner ends of the levers are provided with teeth *a'*, which intermesh with the teeth *k*, so that when the levers are thrown apart the block *j* and knife *o* are drawn to the rear, as shown in Fig. 3, and when the levers are moved toward each other the block and knife are propelled forward. As shown in Figs. 2 and 3, the inner ends of the levers *v* are provided with circular flanges *b'*, which project over the upper and lower sides of the block *j* and are provided on their peripheries with teeth *o'*, which intermesh with each other, so that when one of the levers is moved in either direction the opposite lever will also be given a corresponding movement in the opposite direction, which serves to retain the casing in a proper relative position to the le-



vers and avoids any liability of one lever moving in advance of the other.

It will be noticed that in order to cut bolts or rivets close to the surface from which they protrude the knife-edges of the cutter must be arranged to lie in the plane of the lower surface of the supporting-holder, and for cutting in various places and between projections, &c., the holder which carries the knife must be of a limited width, and to conform with these conditions the chamber *b* is provided on the lower edges of its lateral sides with the slides *r*, projecting inwardly, while the knife-block *m* is arranged with the ribs *n*, projecting outwardly from the upper edges of its lateral sides, so that the knife-edge *o* extends entirely across the space between the slides *r*, while the portions *p* of the ribs project forwardly, and, extending beyond the knife-edge *o*, provide a bearing-surface of sufficient area to form a permanent and substantial means of retaining the edge of the knife *o* against a downward strain, which obtains upon the knife during the cutting operation on account of the knife being beveled entirely upon its upper side, as must be the construction thereof in order to cut the bolt or rivet close to the nut or fastening, and in this lies the gist of my invention, as the edge *o* by this means is firmly held to its position

and the wear of the slides is thereby greatly reduced and the strength of the device materially increased.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, the casing having the stationary cutter and formed on its interior with slideways, a movable knife-block having laterally-projecting ribs along the upper portion of its sides, the lower and narrow part of the block being beveled at its front to form the cutting-edge, and the arms projecting forward above and beyond the cutting-edge and forming integral continuations of the lateral ribs at the top of the knife-block, and operating mechanism for the block, substantially as described.

2. In combination, the casing, the movable knife with operating mechanism, the fixed knife having a bent or angular lower portion, and the seat for the knife consisting of the beveled lip on the casing, the end wall, and the lugs also thereon, substantially as described.

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

WILLIAM WOOLGAR.

Witnesses:

JAS. E. THOMAS,  
J. J. DE MARS.