

(No Model.)

D. G. SLIGH.

BOLT CUTTER.

No. 389,766.

Patented Sept. 18, 1888.

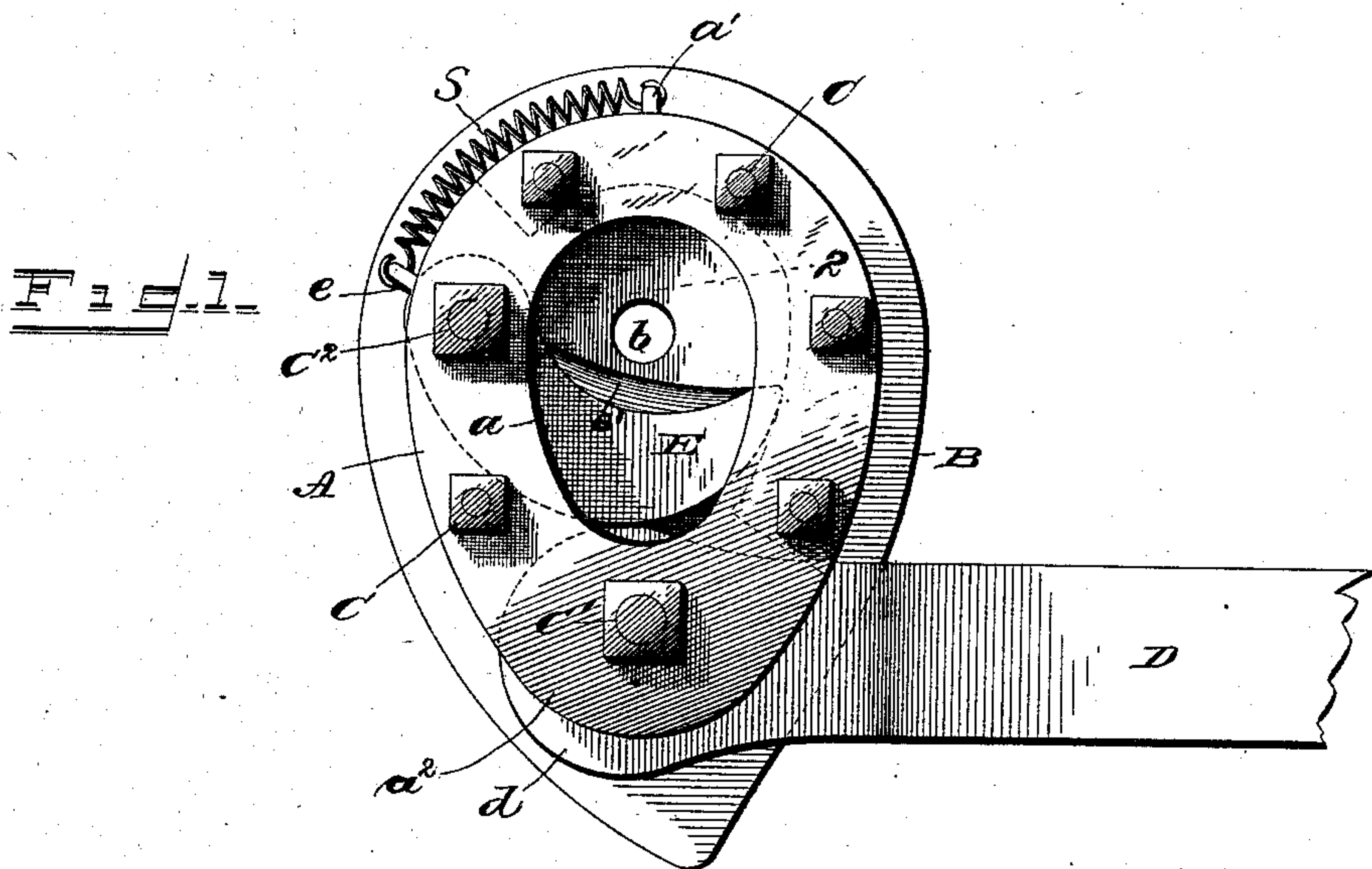
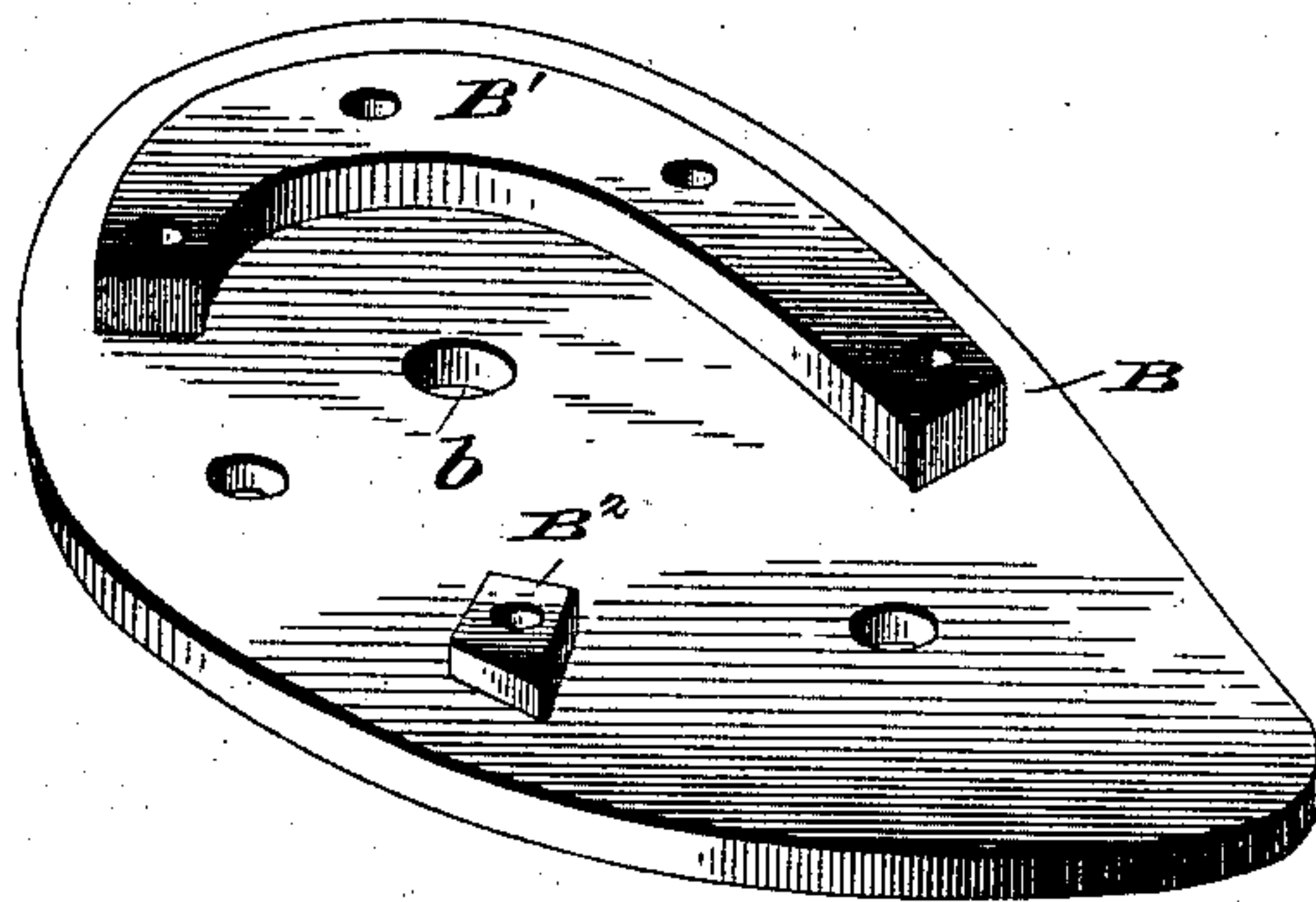


Fig. 2.



David G. Sligh

WITNESSES

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# UNITED STATES PATENT OFFICE.

DAVID G. SLIGH, OF KINGSTON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO  
JOHN BERSCH, OF SAME PLACE.

## BOLT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 389,766, dated September 18, 1888.

Application filed December 8, 1887. Serial No. 257,331, (No model.)

*To all whom it may concern:*

Be it known that I, DAVID G. SLIGH, a citizen of the United States of America, residing at Kingston, in the county of Luzerne and State of Pennsylvania, 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 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to new and useful improvements in bolt-cutters; and it consists in the novel construction and combination of certain mechanical devices having a definite function, which will be more fully hereinafter described, and pointed out in the claims.

The object of my invention is to provide a device for facilitating the operation of cutting bolts, the parts thereof being simple and effective in their construction and operation, strong and durable, and easily handled.

In the accompanying drawings I have illustrated my preferred form of construction, like letters of reference being used to indicate similar parts in the several views, and in which—  
Figure 1 is a top plan view of my improved bolt-cutter. Fig. 2 is a detail perspective view of the lower plate.

A indicates the top plate, which is elliptical in shape and wider in cross-section at one end than at the other. This plate is formed with an opening, *a*, which is eccentrically arranged therein, and provides a greater width and reinforcement of metal at one end of the plate, as at *a*<sup>2</sup>, than exists elsewhere. Suitable bolt-holes are also formed in this plate at determined intervals.

B designates the lower plate, which is of solid construction, with the exception of the attaching-bolt holes therein and the bolt-opening *b*, through which is inserted the bolts to be cut or trimmed. This plate B is somewhat larger than the plate A, but of substantially the same shape. The plate B is also constructed of sufficient thickness to give the bolt placed in the opening *b* to be cut suitable bear-

ing-support against the pressure of the cutter and thereby obtain an even cut. An extended curved block, B', and a small rest-block, B<sup>2</sup>, are integrally formed with one side of the plate B. As stated, the block B' is of an extended curved construction, and is substantially parallel with the edge of the said plate B. Both of the said blocks are formed with bolt-holes, and between the blocks and adjacent to one end of the plate B other bolt-holes are also formed. The block B<sup>2</sup> forms a rest-block, and between each side thereof and the ends of the block B' a space is formed to give free play to the operating parts.

E represents a crescent-shaped cutter formed with a cutting-edge, *e'*, the metal in rear of said edge being increased in width to thereby strengthen and re-enforce the said cutter. The one end of the cutter is pointed and the opposite end rounded and apertured. The apertured end of the said cutter is inserted between the plates A and B, and pivotally mounted and retained therein by a bolt and nut, C<sup>2</sup>. The rounded end of the cutter E, beyond the pivotal point thereof, is formed with an integral apertured lug, *e*, to which the lower end of a coiled spring, S, is attached. The opposite end of said coiled spring is attached to a lug, *a'*, formed with the central part of the adjacent end of the top plate, A. The function of said spring is to return the cutter E to its normal position, as shown in Fig. 1. It will be understood from the above description that a spring with a small amount of inherent resiliency can be used to produce a great retractile effort, for the reason that the coils of said spring impinge against the upper plate and retard the movement thereof to such an extent as to offer a resistance.

D indicates the handle, which is mounted between the two plates A and B and directly under the increased part *a*<sup>2</sup> of the plate A. The inner end of the handle D is enlarged, as at *d*, and has an aperture therein, and when the bolt C' is passed therethrough and through the plate A and B an eccentric mounting thereof will be had, as fully shown in Fig. 1. The bolt C' passes through the re-enforced part of the plate A, and the said plate at this point is thereby adapted to resist the strain brought



to bear upon the bolt C', and thus avoid breakage of the said plate. The normal position of the handle D is at right angles to the cutter and frame, and the cutter is normally in contact therewith, being held thereagainst by the coiled spring S. It will be understood that when the parts are all assembled, as described, the two plates A and B will be bolted together, as shown in Fig. 1.

When the handle D is turned, it forces the cutter E over the bolt-hole *b* and cuts the bolt, if one be inserted therein. After cutting the bolt, the handle is released and the coiled spring S comes into play by its retractile force and returns the cutter to its normal position and presses the handle back at right angles to the frame. It will be self-evident that the cutter E must be harder and of greater temper than its pivotal bolt C'. Through the continued movement of the cutter the pivotal bolt C' will of necessity become worn and the cutter have loose play, which would produce a ragged cut. This difficulty is avoided by the construction and arrangement of the curved block B'. When the cutter reaches the dotted line 1 2, the point impinges against the inside wall of the block B', and in its movement also slightly bears against the said block. By this means any tendency of the cutter to make a draw-cut through its looseness is avoided, and however loose the cutter may be on its pivot it will always be forced squarely against the bolt to be cut. The blocks B' and B<sup>2</sup> also form means for separating the plates A and B to allow the cutter to have free movement, and also the handle D, and the block B' forms a partial closed side.

I am aware that prior to my invention bolt-cutters have been constructed having a pair of handles, one of which is adapted to hold the cutter upon a bolt, while the other handle,

which is pivoted to a stationary handle, bears upon a movable cutter. I do not claim this construction as my invention, such being shown in Patents Nos. 16,991, 54,520, and 218,706.

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

1. In a bolt-cutter, the combination of a lower plate having a plane or flat outer surface and a perforation, *b*, an upper plate with a central opening, said plates being held separate one above the other by a curved block, B', a cutter pivoted between the plates so as to be moved over the perforation *b*, said cutter having an apertured lug with which one end of a coiled spring engages, said spring lying over the outer edge of the curved block, to which its opposite end is secured, a single lever or handle, D, having a cam shaped end pivoted between the plates to bear upon the cutter and bolts, and nuts for securing the parts together.

2. The combination, in a bolt-cutter, of the upper and lower plates pivoted to the handle or lever, the lower plate having an extended portion upon which the handle or lever bears beyond its pivot, a cutter pivoted between the plates and held by spring-pressure against the cam-shaped end of the handle, so that there will be frictional contact between the cutter and handle sufficient for the manipulation of the implement, the parts being organized substantially as shown, and for the purpose set forth.

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

DAVID G. SLIGH.

Witnesses:

JOHN BERSCH,  
F. P. RYDER.