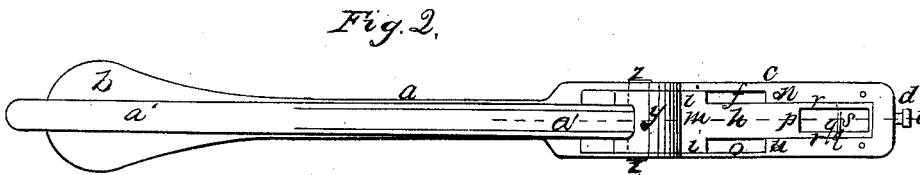
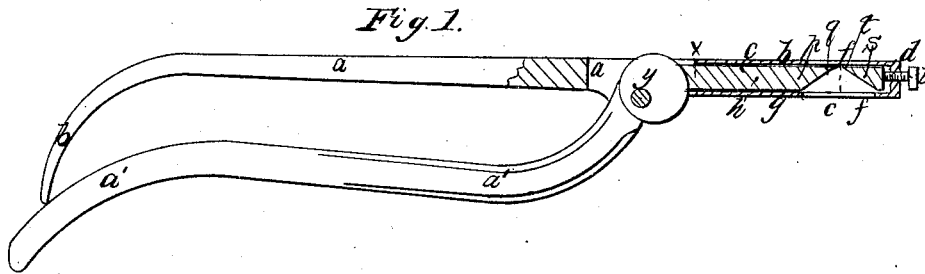


C. Dreher,

Bolt Cutter.

N^o 51,300.

Patented Dec. 5, 1865.



Witnesses:

*Wm. Brown
Thos. Tusch*

Inventor:

*C. Dreher
By *William H. Tusch*
*Wm. H. Tusch**

UNITED STATES PATENT OFFICE.

CASPAR DREHER, OF DETROIT, MICHIGAN.

IMPROVED BOLT-CUTTER.

Specification forming part of Letters Patent No. 51,300, dated December 5, 1865.

To all whom it may concern:

Be it known that I, CASPAR DREHER, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Cutters for Bolts, Rivets, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to certain new and useful improvements in bolt-cutters particularly applicable to the cutting of carriage and wagon bolts; and principally consists in a novel and peculiar arrangement of cutting-knives or blades, whereby the bolts can be readily and easily cut, as will be presently described, reference being had to the accompanying plate of drawings, of which—

Figure 1 is a partial sectional view of the bolt-cutter in the direction of its length, and Fig. 2 a view of one side of the same.

a a in the drawings represent a frame having its end *b* bent into a curved shape, and with a box, *c*, at the other, in which, near its end *d*, is an aperture, *f*, in bottom and top plates, *g* and *h*, directly opposite to each other and of the same width.

In box *b*, and between top and bottom plates of the same, is a sliding bar, *h'*, little wider than the apertures *ff*, and having projecting pieces *ll* upon each side of the same and at its end *m*, between which and the shoulders *nn* of the box *b* a rubber or other suitable spring, *o*, is placed.

The end *p* of sliding bar *h'* is made of a bevel shape from the bottom to the top plate, and has a chisel or sharp-cutting edge, *q*, of a width equal to the aperture in the top plate, leaving its straight side pieces, *rr*, so as to slightly project beyond the same.

s s is a similar-shaped cutter to that of sliding bar, placed within the box with its chisel-edge *t* directly opposite and in the same plane with that of the bar, but with a space between the two corresponding to the size of the bolt or rivet which is to be cut; *v*, a set-screw passing through end *d* of box and bearing against the cutter *s*, by turning which to the right or left the cutter *s* can be adjusted and set in any desired position with regard to the sliding cut-

ter-bar *h'*, so as to increase or decrease the opening or space between them according as a large or small bolt is to be cut.

Hung within the frame *a* and at the projecting end *x* of the cutter-bar *h'* is an eccentric or cam, *y*, turning upon a cross-pivot, *z*, of frame *a*, and having a lever-handle, *a'*, attached to the same or forming a part thereof, said cam being made of such a form that by depressing the lever attached thereto the cutter-bar *h'*, against which the cam bears, can be moved toward the adjustable and fixed cutter *s*, and with any desired degree of pressure, by simply increasing or decreasing the amount of power applied, the cutter-bar being retracted by the springs *o o* as the lever is moved away from the frame *a*.

The shears or bolt-cutting device hereinabove described, when used, the space between its cutting-edges is first adjusted to the size of the bolt or rivet which is to be cut by setting its adjustable cutter, after which it is placed over and upon the projecting portion of the bolt, with its top plate resting against the outside of the carriage or the nut, the bolt passing between the two cutters when the lever-handle, being depressed by the hand and with sufficient force, the sliding knife is made to move toward the fixed cutter, cutting and separating the bolt as desired and as is evident without further description, the bolt being cut close to the nut or carriage-body, or not, according as the plate between it and the cutters is thin or thick; but I deem it best to make it of such a thickness as to leave a projecting end to the bolt of sufficient length to allow a rivet to be driven into it, which is quite necessary in carriage-making because of the shrinkage of the wood.

By forming the cutting-edges of the cutters with slightly projecting side pieces, as described, they are prevented from coming directly in contact with each other, and thus not liable to become blunted.

The frame *a*, when the shears are used as has been hereinbefore particularly described, rests upon the wagon-body, and from its shape both hands are left free to work the eccentric-lever, the advantages of which are apparent.

The cutters may be removed for sharpening them by simply removing the bottom plate of the box, which is attached to the frame by

means of screws or in any other proper manner to admit of the same.

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

The bolt-cutter herein described, consisting of the frame *a*, cam-lever *a'* *y*, guide-plates *g* *h*, cutter-bar *h'*, adjustable cutter *s*, and screw

v, all constructed, arranged, and operating substantially as and for the purpose set forth.

CASPAR DREHER.

Witnesses:

HERMAN KIEFER,
RUDOLPH DIEPENBACH.