

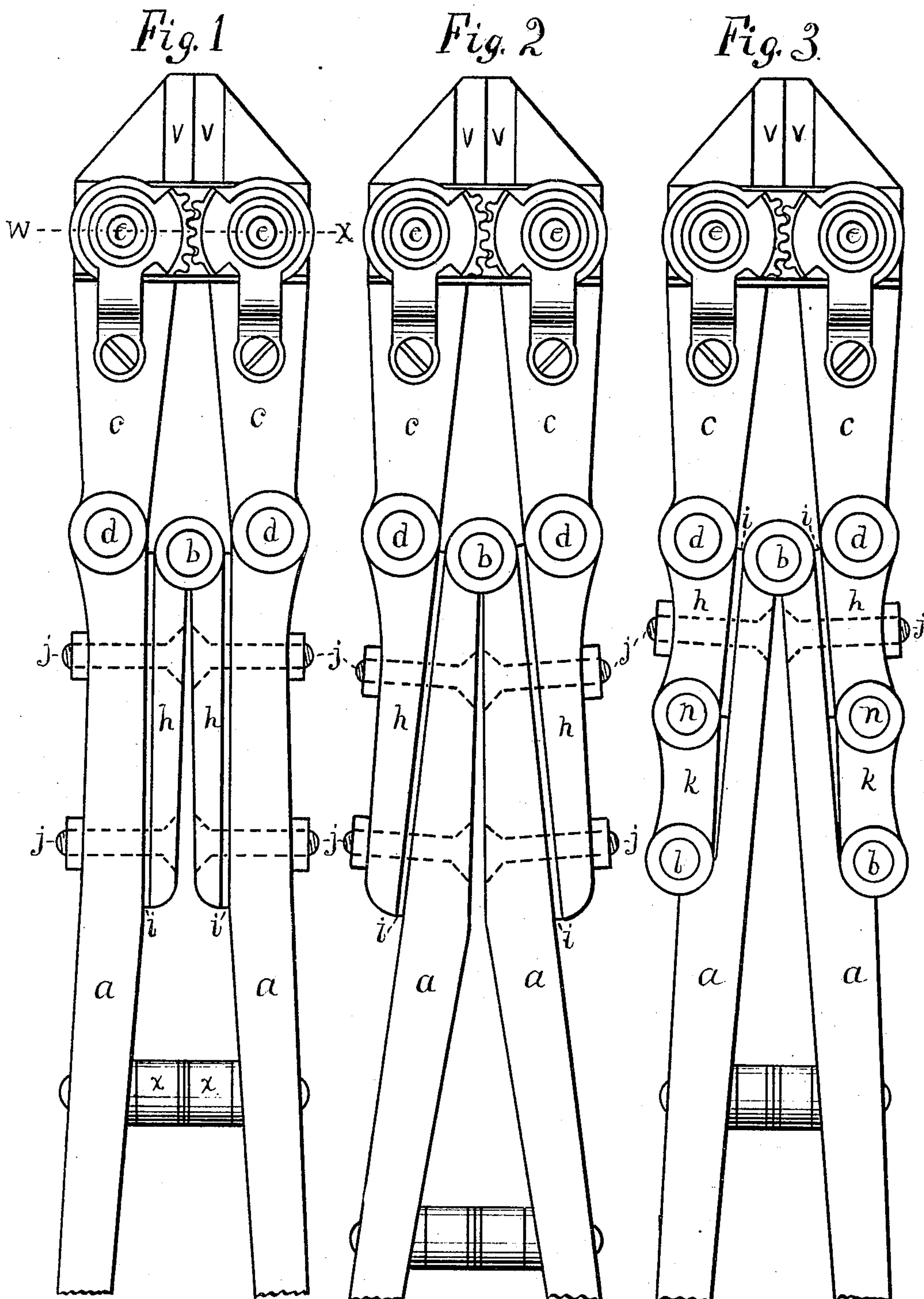
(No Model.)

2 Sheets—Sheet 1.

H. K. PORTER.
BOLT CUTTER.

No. 245,314.

Patented Aug. 9, 1881.



Witnesses:
W. L. Dudley.
M. W. Upham

Inventor:
Henry K. Porter
By Porter & Hutchinson Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

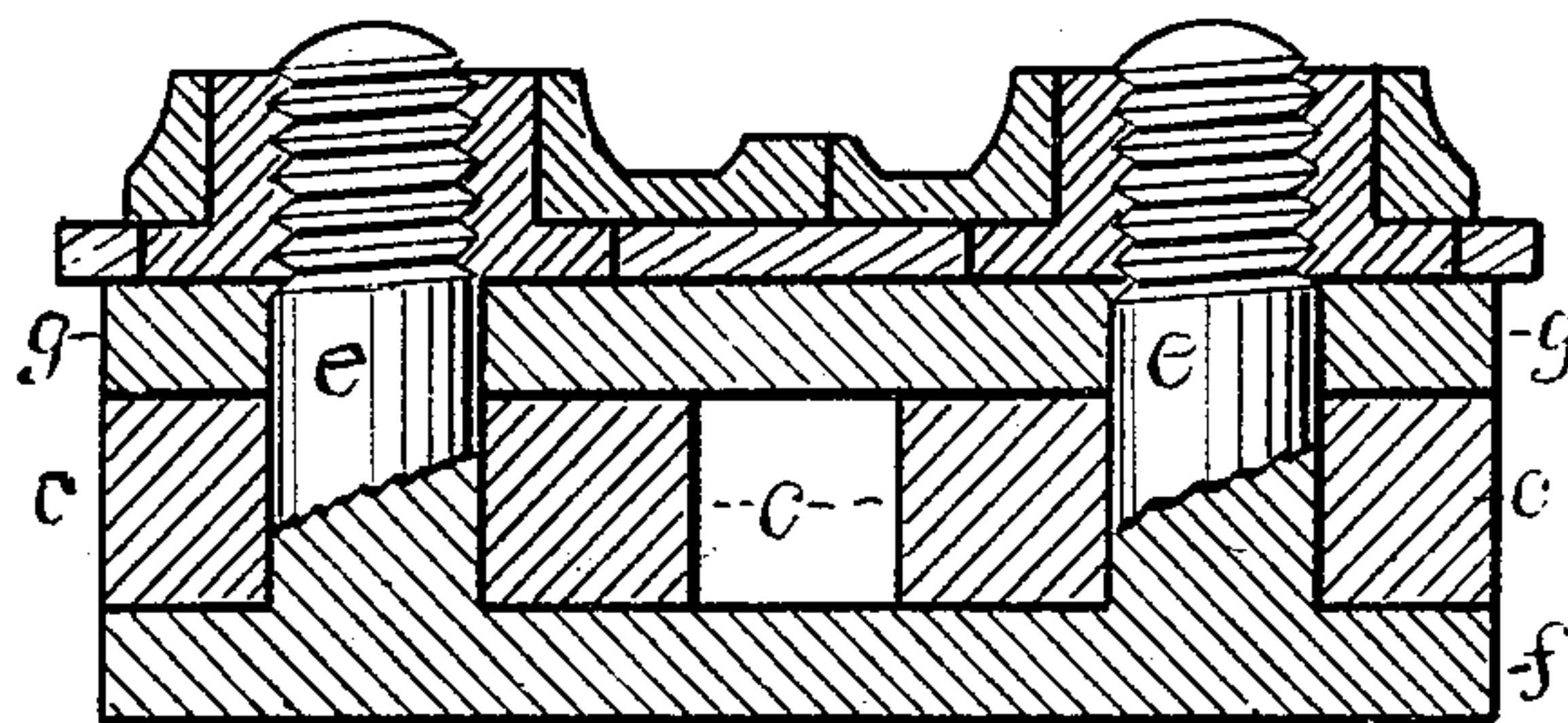


Fig. 6.

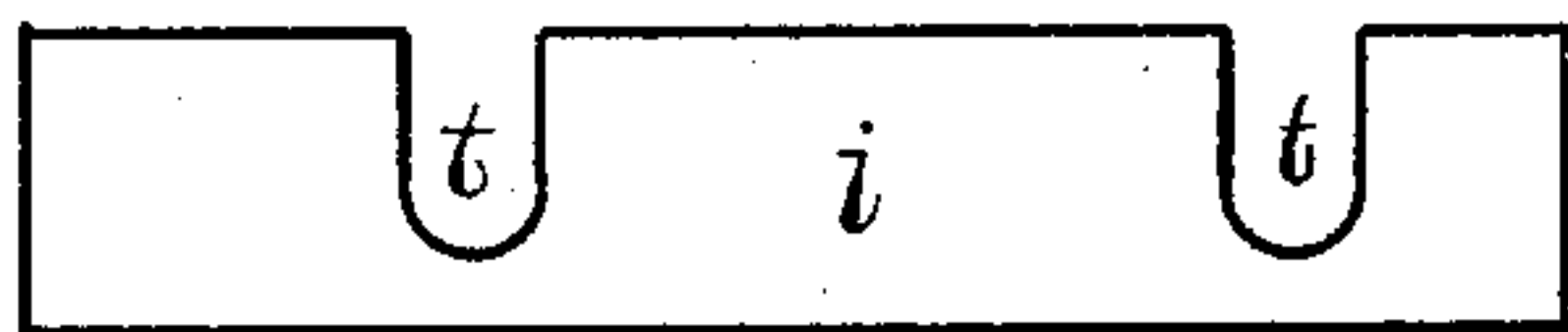
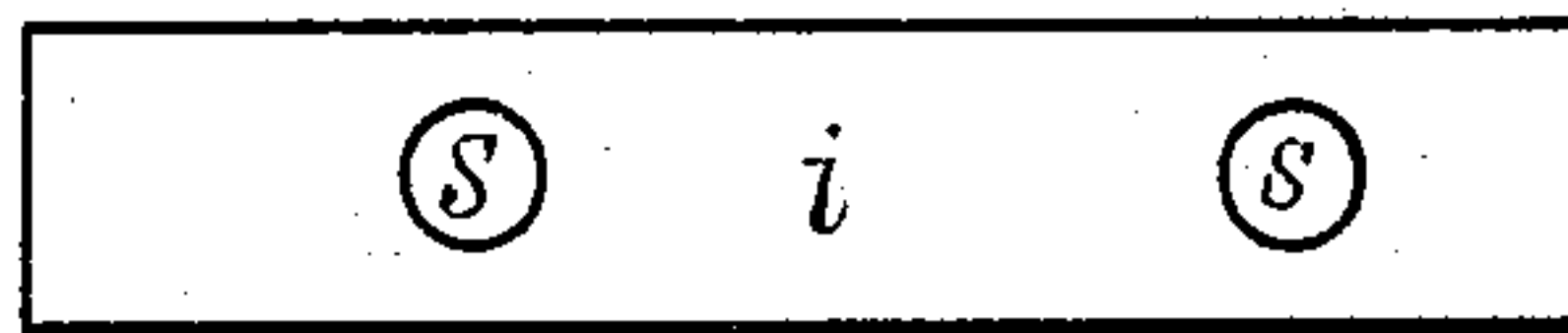


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY K. PORTER, OF BOSTON, MASSACHUSETTS.

BOLT-CUTTER.

SPECIFICATION forming part of Letters Patent No. 245,314, dated August 9, 1881.

Application filed March 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY K. PORTER, of the city of Boston, State of Massachusetts, have invented Improvements in Bolt-Cutters, of which the following is a specification.

This invention relates to improvements in the class of bolt-cutters for which Letters Patent of the United States, No. 226,190, were issued to me on the 6th day of April, 1880; and also Letters Patent of the United States, No. 236,695, dated January 18, 1881; and the said improvements will, in connection with the annexed drawings, be hereinafter clearly described, and specifically defined in the appended claims.

In said drawings, Figure 1 is a top or plan view of my bolt-cutters, having applied thereto an improved device for adjusting the relative position of the cutting-jaws. Fig. 2 is a view similar to Fig. 1, but showing a different arrangement of certain of the parts. Fig. 3 is also a view similar to Fig. 1, but showing a modification of said adjusting parts. Fig. 4 is a transverse section, taken on line W X, Fig. 1, and showing an improved method of forming the lower bar and pivot-studs all in one piece or forging. Figs. 5 and 6 are side views of the adjusting-plates, which are placed between the handle-levers and the adjusting-arms for the purpose of compensating for the wearing away of the cutting-edges of the cutting-jaws.

In said views *a a* represent the levers, in part of their length broken away, and *c c* are the cutting-jaws, both of which are, in the main, like those shown in my said patents. But in Fig. 1 the levers *a a* and jaws *c c* are respectively pivoted directly to each other at *d*, while the short arms *h h* are pivoted together at their front ends at *b*, and are rigidly secured to the respective levers *a a* by the bolts *j j*, as shown, and said pivot *b* thereby constitutes the pivot of said arms *a a*. As the cutting-edges *v v* of jaws *c c* are worn away the thin plates *i* are interposed between arms *h* and levers *a*, as shown, said plates being formed either with the holes *s*, as shown in Fig. 5, or with the open slots *t*, as shown in Fig. 6, to receive said bolts *j*. By interposing such plates of the requisite thinness, and as the wear of edges *v* goes on, the meeting of said edges coincident with the con-

tact of buffers *x x* on levers *a a* may be always assured.

By means of bolting arms *h* to levers *a* in the manner shown said arms and their respective levers may be adjusted at any desired distance apart, and yet the meeting-faces of each arm and its lever be parallel. The benefit whereof over my former method of oblique adjustment of each arm relatively to its lever consists in the fact that I can effect such adjustment by interposing the thin strips *i* of uniform thickness, which may be cut from sheet metal of required thickness, ready for use, whereas, when the adjustment of the arms was oblique to the levers the interposed plates, which were necessarily tapering, were prepared at comparatively large expense, as they could not be cast of the requisite thinness for the necessary delicate adjustment.

In Fig. 2 the arms *a* are pivoted together at their front ends, as in my former patents, and the adjusting-arms *h* are bolted to the outside of the arms by bolts *j*, instead of the inside, as in Fig. 1, and said arms *h* are at their front ends pivoted to jaws *c* at *d*, as were the adjusting-arms in my said former patents. With the arrangement of the arms *h* and levers *a*, as shown in Fig. 2, the thin plates *i* are interposed between the outside of the levers and the inside of the arms, as there shown.

In Fig. 3 the levers *a* are pivoted together at *b*, and the adjusting-arms *h*, which are pivoted to jaws *c* at *d*, are secured to arms *a* by bolts *j*, and to said arms *h* are pivoted links *k* at *n*, said links being pivoted to levers *a* at *l*. By means of said links the arms *h* may be adjusted parallel to levers *a*, and at the requisite distance therefrom, and the plates *i* interposed, as in the other instances.

In Fig. 4 the lower jaw-plate, *f*, and the jaw-pivots *e e* are shown as formed as an entirety. In my said last patent said pivots were shown with circular heads seated in a counterbore in plate *f* and interlocked therewith by a locking-pin. Said method was an improvement over the former method, which consisted in passing said pivots down through the top plate, *g*, at full size, with the pivot-head resting thereon, while the pivot was threaded in plate *f*, and was consequently liable, from the great strain

to which it was at times subjected, to be sheared off at the top of plate *f*. But by reason of the hole and counterbore, which my said method required in said plate *f*, the same must be made
5 of an objectionable thickness, for the less thickness of said plate the better, and therefore I have invented said bar and pivots formed as one entire forging, preferably of Bessemer steel, by which I give to the plate its full strength,
10 and to the pivots their full strength, as if each were formed separately and was not fitted to receive the other; and, moreover, the cost of the tool is thereby actually decreased, as the forging is placed in a suitable templet and the
15 pivots and face of the plate *f* are milled true and perfect together and at one operation.

I claim as my invention—

1. In a bolt-cutter having the levers *a a* and jaws *c c*, the separate pivotal connecting-arms

h h and means for adjusting them relatively to 20 and parallel with their respective levers *a*, substantially as specified.

2. In a bolt-cutter having the levers *a a* and jaws *c c*, the adjusting-arms *h*, and links *k* pivoted to said arms and to levers *a*, and means 25 for adjusting said arms *h* relatively to and parallel with said levers *a*, substantially as specified.

3. In a bolt-cutter, the combination of levers *a*, jaws *c*, arms *h*, bolts *j*, and plates *i*, all com- 30 bined and arranged to effect the adjustment of arms *h* relatively to and parallel with levers *a*, substantially as specified.

HENRY K. PORTER.

Witnesses:

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