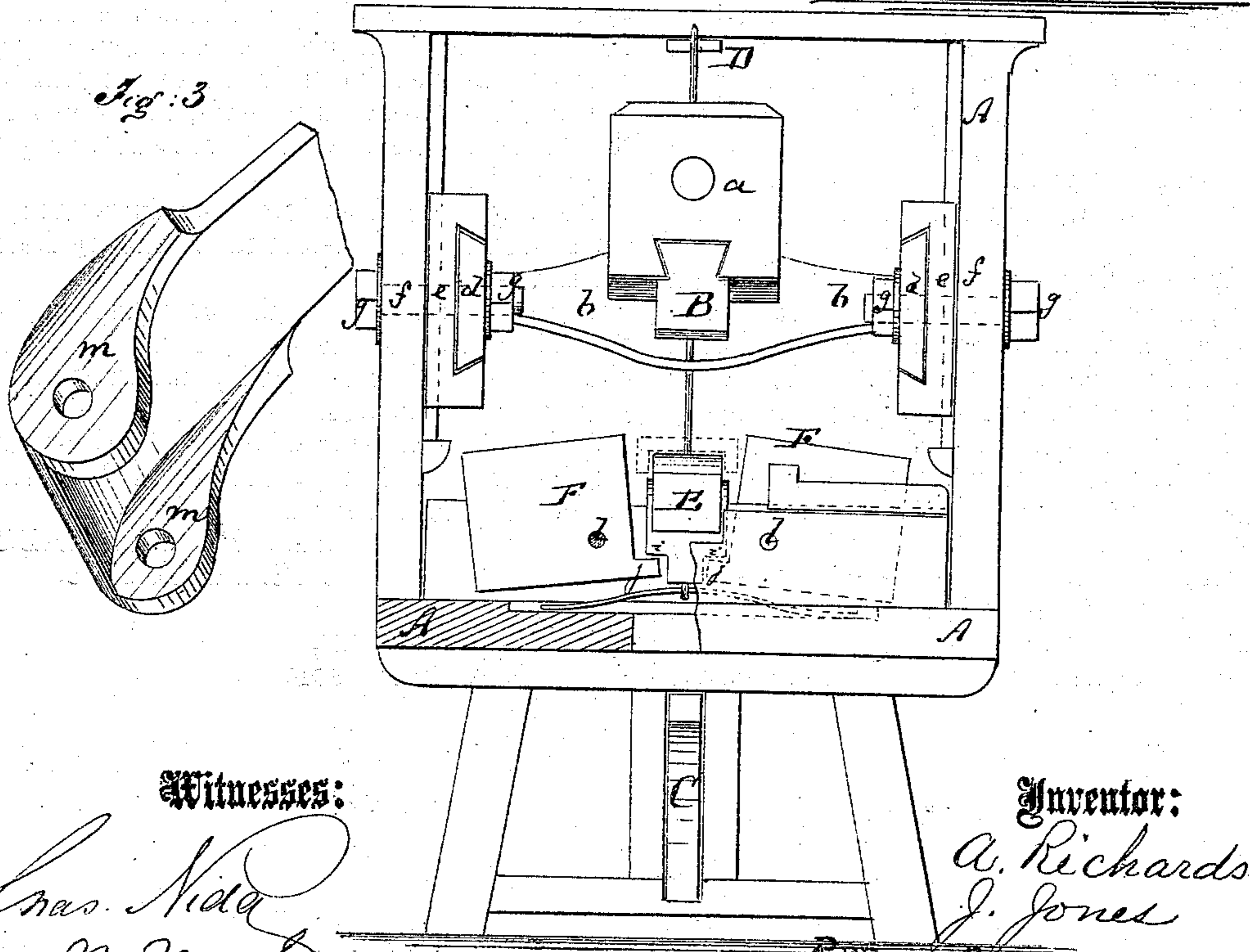
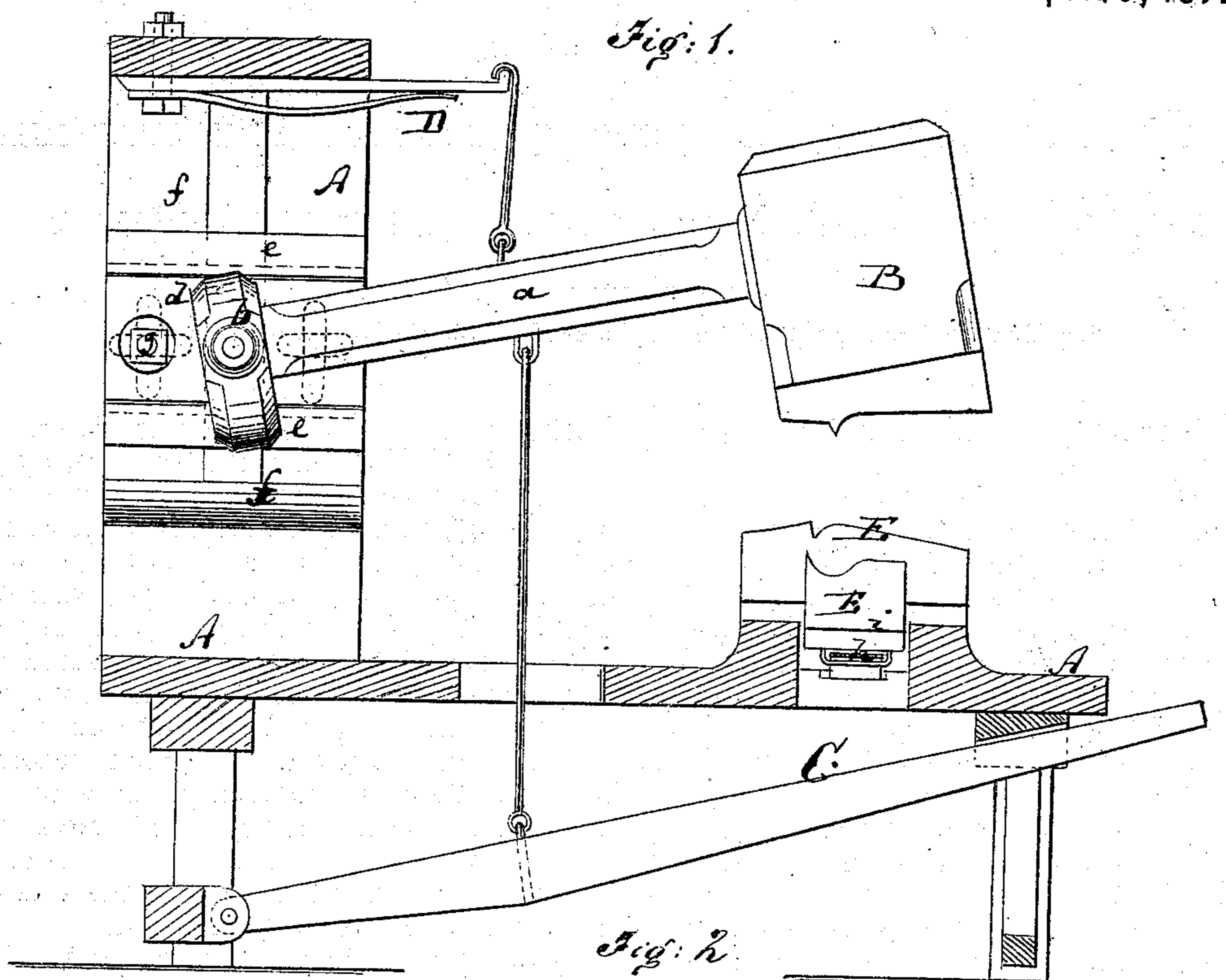


A. RICHARDS & J. JONES.

Improvement in Machines for Welding Ears on Elliptic Carriage Springs.

No. 125,485.

Patented April 9, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

AARON RICHARDS AND JOSIAH JONES, OF CONCORD, NEW HAMPSHIRE.

IMPROVEMENT IN MACHINES FOR WELDING EARS ON ELLIPTIC CARRIAGE-SPRINGS.

Specification forming part of Letters Patent No. 125,485, dated April 9, 1872.

Specification describing a new and Improved Machine for Welding Ears on Elliptic Carriage-Springs, invented by AARON RICHARDS and JOSIAH JONES, of Concord, in the county of Merrimack and State of New Hampshire.

Figure 1 represents a vertical longitudinal section of our improved hammer. Fig. 2 is a front elevation, partly in section, of the same; and Fig. 3 a detail perspective view of one end of the welded spring.

Similar letters of reference indicate corresponding parts.

This invention relates to a new arrangement of foot or power hammer for welding ears to the ends of elliptic carriage-springs and equivalent purposes. The invention consists, first, in making the hammer vertically and horizontally adjustable at its pivoted end to make it fit the lower die in the desired manner. The invention also consists in the peculiar arrangement of die, which is made in three sections, the central one of which, when struck by the hammer, causing lateral motion of the side-sections for acting against the sides of the ears.

A in the drawing represents the frame-work of the hammer. B is the hammer, secured to a shank, *a*, which is at the rear end connected with a cross-piece, *b*. The ends of the latter constitute the pivots for the hammer, and have their bearings in horizontal slides *d d*, which are dovetailed in vertical slides *e e*, and, together with the same, bolted to the upright pieces *f f* of the frame. The fastening-bolts *g* pass through the three thicknesses *d*, *e*, and *f*; the pieces *d* and *f* being slotted in horizontal and vertical directions, respectively, to allow the requisite adjustment of the hammer-pivot

backward and forward, up and down. The inner faces of the side pieces *f f* are, by preference, provided with ribs or grooves, which serve as reliable guides for the vertical slides *e*. The hammer-shank *a* is connected with a treadle, C, and with a spring, D, whereby it can be moved down or up, or with any suitable equivalent device for giving it motion. E is the die, which is to be struck by the descending hammer, and against the sides of which the ears *m* of the spring are to be formed. F F are side dies for striking said ears. The die E is held somewhat elevated above a rigid bed by a spring, *h*, and fits with two shoulders, *i i*, over projecting tenons *j j* of the side dies, which are at *l* pivoted to the frame.

Whenever the hammer B strikes the die E and the spring resting thereon, the said die, in descending, will press on the tenons *j* and swing the dies F F, both simultaneously, against the pendent ears of the spring into recesses at the sides of the die E, thereby insuring the desired effect.

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

1. In combination with the uprights *f* and the adjustable slides *d* and *e*, the hammer B and its pivotal cross-piece, substantially as shown and described.

2. The combination of the vertically-operating die E with the pivoted dies F F and a hammer, B, as set forth.

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