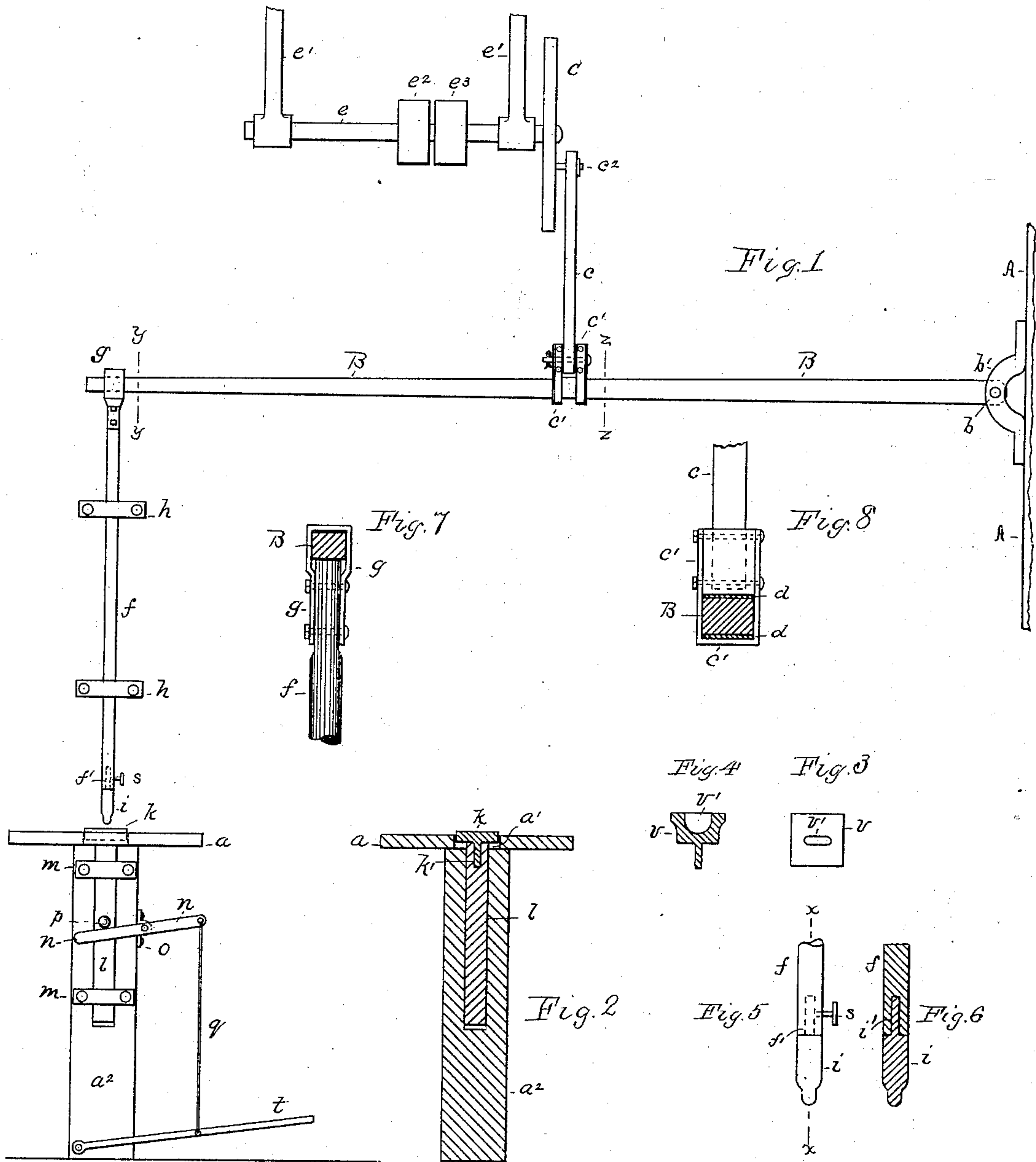


(No Model.)

H. O. ROBERTS.
RIVETING MACHINE.

No. 375,772.

Patented Jan. 3, 1888.



Witnesses:

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HUMPHREY O. ROBERTS, OF MINNEAPOLIS, MINNESOTA.

RIVETING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 375,772, dated January 3, 1888.

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To all whom it may concern:

Be it known that I, HUMPHREY O. ROBERTS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Riveting-Machines, of which the following is a specification.

My invention relates to machines for swaging the ends of rivets to form retaining-heads.

It is the object of the invention to provide mechanism for operating a hammer-shaft by means of a spring-lever to form the rivet-heads by a succession of light blows, after the manner of hand-blows; and the invention consists, generally, in a spring-bar operated by a pitman to reciprocate a vertically guided rod carrying a riveting-tool, and a vertically-adjustable anvil for presenting the rivet to the reciprocating tool.

The improvements are illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the machine; Fig. 2, a vertical section of the post and table and adjustable anvil. Figs. 3 and 4 are details of anvils for holding staples. Figs. 5 and 6 are enlarged views of a portion of the hammer-shaft and riveting-tool. Fig. 7 is a sectional view of the spring-lever on the line *yy* of Fig. 1, showing the hammer-shaft fastening; and Fig. 8 is a section of the spring-lever on the line *zz* of Fig. 1, showing the pitman-connection.

The letter A designates a post, to which the end of a spring-bar, B, is pivoted by means of a pin, *b*, in a bracket, *b'*, attached to the post. The bar B is preferably made of tough elastic wood—such as hickory—but may be of suitable metal, and should taper from its pivotal point to the point of connecting the hammer-shaft. Near its middle the bar is connected to a pitman, *c*, by a loop, *c'*, or any suitable device, and should be somewhat loose in the loop to permit sufficient sliding to compensate for the varying angularity of the parts in action. To prevent rattling and unnecessary wear, strips of rubber, *d*, may be fastened in the loop or on the bar. The pitman is connected to a wrist, *c''*, on a wheel, C, carried by the pulley-shaft *e*. The shaft is mounted in hang-

ers *e'* and has a fast and a loose pulley, *e''* *e'''*, respectively. At the outer end of the spring-lever is connected the vertical hammer-shaft *f*, by means of a loop, *g*, or other suitable device, in which the bar will be allowed the proper longitudinal movement when in operation. The hammer-shaft slides in guides *h*, which may be attached to a post or wall. In the lower end of the shaft *f* is a slot or socket, *f'*, for receiving the shank *i'* of a riveting-tool, *i*, which is held in the socket by a thumb-screw, *s*.

Below the riveting tool is a table, *a*, having a central opening, *a'*, and supported on a post, *a''*. In the opening *a'* is an anvil, *k*, held on the end of a sliding bar, *l*, by socketing its shank *k'* in the bar. The bar is fitted in a groove in the side of the post *a''*, or at the outside in guides *m*, so that it may freely slide up and down. A pin, *p*, projecting from the bar, is engaged by a lever, *n*, which is fulcrumed at *o* and has attached to its outer end a cord, *q*, extending to a treadle, *t*, in convenient position for an operator.

It will be apparent that by operating the treadle *t* the anvil *k* can be raised or lowered as required by the varying thicknesses of material placed upon the anvil to be riveted. It will also be obvious that if rapid motion is imparted to the spring-lever by the pitman the hammer-shaft will give the riveting-tool a like quick movement, and the operator may adjust the anvil and shift the position of the pieces to be riveted so as to regulate the forming of the rivet-head to the shape he may desire.

In case staples are to be clinched, an anvil, *v*, having a rounded socket, *v'*, as shown in Figs. 3 and 4, may be used.

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

1. In a riveting-machine, the combination, with a reciprocating riveting-tool, of an anvil, a supporting-bar therefor, guides for said bar, and a lever and foot-treadle for raising and lowering the same to adjust the anvil to the riveting-tool, substantially as set forth.

2. In a riveting-machine, a pivoted spring-bar, a pitman connected therewith, a hammer-

shaft also connected therewith and carrying a riveting-tool, an anvil and its adjustable support, and a lever for adjusting said anvil-support, substantially as set forth.

- 5 3. In combination, the pivoted spring-bar B, pitman *c*, hammer-shaft *f*, riveting-tool *i*, anvil *k*, its support *l*, having pin *p*, and the

lever *n* and treadle *t*, substantially as and for the purpose set forth.

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Witnesses:

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