

JAMES BERRY.

Improvement in Riveting Machines.

No. 123,763.

Patented Feb. 20, 1872.

Fig. I.

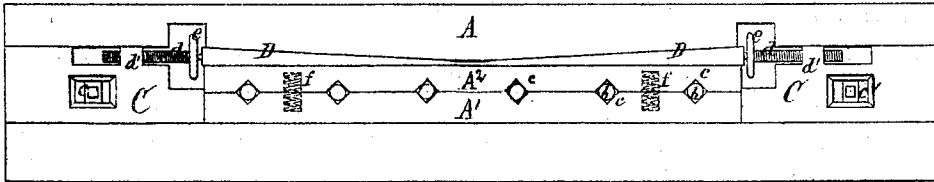


Fig. II.

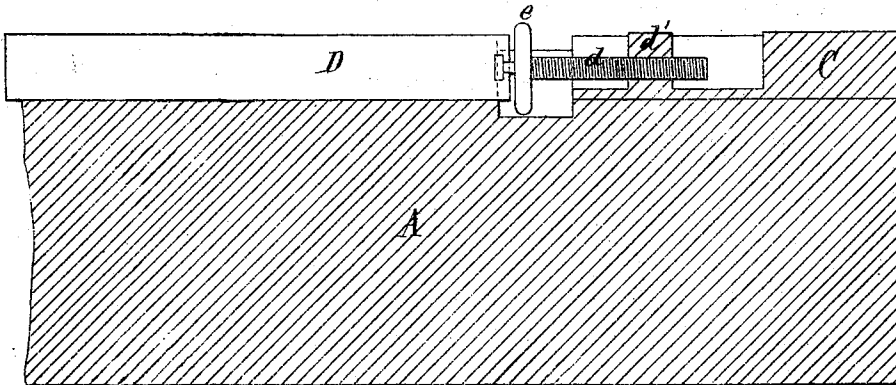
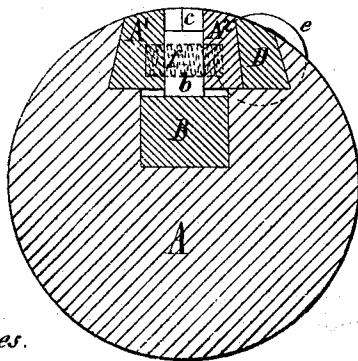


Fig. III.



Edward Wilhelm  
Jno. A. Bonner } Witnesses.

James Berry  
Inventor.

# UNITED STATES PATENT OFFICE.

JAMES BERRY, OF BUFFALO, NEW YORK, ASSIGNOR TO HIMSELF AND HENRY BERRY, OF SAME PLACE.

## IMPROVEMENT IN RIVETING-MACHINES.

Specification forming part of Letters Patent No. 123,763, dated February 20, 1872.

### SPECIFICATION.

I, JAMES BERRY, of the city of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Riveting-Machines, of which the following is a specification:

This invention relates to riveting-machines adapted to receive and hold all of the rivets required for the parts to be riveted together at a relative distance apart to correspond with the rivet-holes in the parts in which the rivets are inserted simultaneously by an elevating device, when all of the rivets are headed by a single continued operation.

For a more particular description of such machines I refer to the specifications of my Letters Patent for improved Riveting-Mandrel, dated November 29, 1870, and numbered 109,575; and for improved Riveting-Machine dated August 22, 1871, and numbered 118,328.

My present invention relates more particularly to the means for operating the clamping-jaws which hold the rivets preparatory to inserting them in the rivet-holes; and consists in the combination and arrangement, with the socketed clamping-jaws arranged in a longitudinally-grooved mandrel, of two wedges operated by screws or equivalent means, and engaging with the movable clamping-jaw so as to produce the same pressure on all parts of the same in clamping the rivets, as hereinafter more fully described.

In the accompanying drawing, Figure I is a plan view of a riveting-mandrel provided with my improvement; Fig. II, a fragmentary sectional elevation on a larger scale of the same. Fig. III is a cross-section in line *x x*, Fig. I.

Like letters designate like parts in each of the figures.

A is the body of the mandrel, consisting of a cylindrical bar of metal.  $A^1 A^2$  are the clamping-jaws arranged in a longitudinal dovetail groove formed in the mandrel. The jaw  $A^1$  is stationary, while the jaw  $A^2$  is movable toward and from the jaw  $A^1$ . B is the rivet elevating-bar arranged below the jaws  $A^1 A^2$  in a rectangular groove, as shown in the drawing. It is

provided with pins *b* passing upward into the sockets *c* of the jaws  $A^1 A^2$ , said sockets being preferably angular in shape, as represented in the drawing, so as to enable the jaws  $A^1 A^2$  to clamp rivets of various sizes. The mechanism for elevating the bar B consists of two wedges arranged under the bar B at each end thereof, and connected by a connecting-rod to a lever, *c'*, supported in the block or frame C.

Heretofore, the movable jaw  $A^2$  was operated by two screws arranged near its ends, which is objectionable, except in very short mandrels, on account of the said jaw being liable to spring or bend, which renders the same unable to securely hold the rivets near the center. To obviate this difficulty I operate the movable jaws by the following means:

D D are two wedges fitting in the dovetail groove of the mandrel between the latter and the movable jaw  $A^2$ . They are of such length that when the jaws are closed their points nearly meet at the center. *d d* are two screws pinioned to the large end of each wedge so as to turn freely therein, and working in a bearing or nut, *d'*, formed with the block C, or attached to the mandrel. *e* is a hand-wheel attached to each screw *d* for operating the same. Its circumference may be notched so that a wrench may be used for turning the screws. *f* are spiral springs arranged between the jaws  $A^1 A^2$  so as to expand the jaws when the wedges D are loosened.

It is evident that the wedges D produce the same pressure on the jaw  $A^2$  at all points, whereby the same is enabled to clamp all of the rivets inserted in the sockets *c*, with equal security, which adds greatly to the efficiency of the machine.

I claim as my invention—

The combination and arrangement, with the mandrel A and socketed clamp-bars  $A^1 A^2$ , of the wedges D D, and screws *d d*, or equivalent means for operating the wedges, substantially as and for the purpose hereinbefore set forth.

Witnesses:

EDWARD WILHELM,  
JOHN J. BONNER.

JAMES BERRY.