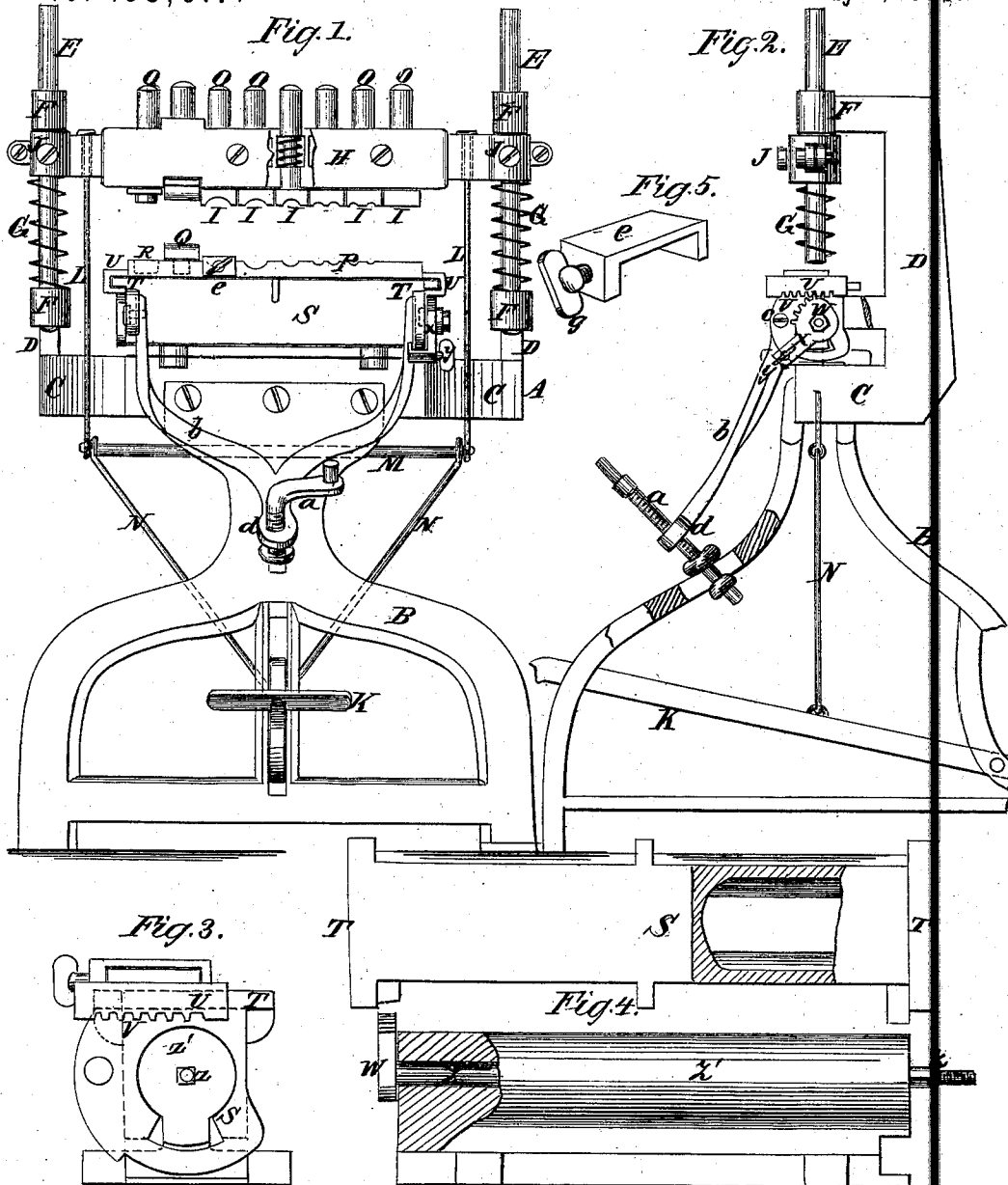


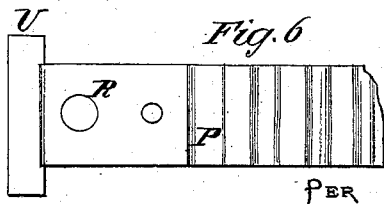
H. M. CRIPPEN.  
Swaging-Machines.

No. 138,617.

Patented May 6, 1873.



Witnesses:  
John Becker.  
C. Sedgwick



Inventor:  
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Munn & Co.  
Attorneys.

# UNITED STATES PATENT OFFICE.

HENRY M. CRIPPEN, OF BARTLETT, ASSIGNOR OF ONE-HALF HIS RIGHT TO  
JAMES C. WILSON, OF PLYMOUTH, OHIO.

## IMPROVEMENT IN SWAGING-MACHINES.

Specification forming part of Letters Patent No. **138,617**, dated May 6, 1873; application filed  
February 1, 1873.

*To all whom it may concern:*

Be it known that I, HENRY M. CRIPPEN, of Bartlett, in the county of Washington and State of Ohio, have invented a new and useful Improvement in Swaging-Machines, of which the following is a specification:

The object of this invention is to furnish a machine for the use of carriage-smiths and metal-workers generally, by means of which the time and labor required for forging the various light irons required in the prosecution of their business may be greatly diminished and the work performed in a superior manner; and it consists in the construction and arrangement of parts hereinafter described.

In the accompanying drawing, Figure 1 is a front elevation of the machine with a part broken away to show the spiral spring of the upper or hammer dies or swages. Fig. 2 is a side view, partly in section, to show the mode of moving and adjusting the lower die or swage plate. Fig. 3 is a detail, showing the means by which the die-plate is rocked or turned from a horizontal to an inclined position. Fig. 4 is a top view of the die-plate and die-plate bed. Fig. 5 is a view of a removable plate which clamps onto the die-plate for receiving flat surfaces. Fig. 6 is a view of a portion of the die-plate.

Similar letters of reference indicate corresponding parts.

A is the bed-plate of the machine, which is elevated on an iron frame, B, which rests upon the floor. At each end of the bed-plate is an arm, C, which supports a stand, D. E E are vertical rods supported in the jaws F F of this stand, as seen in the drawing. G G are spiral springs on the rods E E. H is the bar which carries the upper swages or dies I. The rods E E pass through the ends of this bar, and the bar rests upon the top of the spiral springs G G. J J are screws which fasten the bar to the rods. The rods, with the bar thus connected, play freely up and down in the jaws F F. The down action is produced by means of a treadle, K, connected with the bar by the upright rods L L, horizontal rod M, and inclined rods N N. (See Fig. 1.) The back or upward motion is pro-

duced by the recoil of the spiral springs. O represents the stems or hammer ends of the dies I, which project above the bar, as seen in Fig. 1.

The bar H is made in two parts with a chamber and spring for each die, the pressure of which spring is upward and constant against a shoulder on the stems, which keeps the dies in the position seen in the drawing. When one of the dies is struck with a hammer it is instantly raised after the blow by the recoil of the spring.

P is the die-plate, having on its face grooves which correspond with the grooves in the faces of the hammer-dies I. The die-plate may be constructed to receive one or more removable dies, as seen at Q, and may have one or more die-holes, R, for punching, the hammer-dies being made to correspond, as seen in the drawing. S is the die-plate bed. The die-plate is held to this bed by the ways or guides T T on the bed and the grooves u u at the ends of the plate. The under sides of these grooves u u are cog-racks V, as seen in Fig. 2. W is a sector-wheel at each end of the bed, which engages with the racks V, by means of which the die-plate is moved and adjusted on the bed laterally to suit the operator. One of the sectors W has an arm, X, and thumb-screw Y, by means of which the die-plate is secured in any desired position. The sectors W are on the ends of a shaft or rod, Z, which passes through the round cylindrical bar Z'. This bar is stationary on the bed-plate A of the machine. The die-plate bed S is fitted to this bar, as seen in Fig. 3, so that it is given, to a limited extent, a rolling motion, produced by means of the screw a, which passes through the frame B, as seen in Fig. 2, and the bale b, which is attached to the bed S by means of the ears c at each end. The screw a works through the arm d of the bale as through a nut, and when it is turned the die-plate and bed S are rocked or turned from a horizontal to an inclined position in either direction. When so turned the die-plate may be moved, as before described, laterally on its bed, so as to correspond with the position of the hammer-dies above. The clamp-plate

*e*, Fig. 5, is placed on any part of the die-plate, or under any one of the hammer-dies, and fastened by the thumb-screw *g*. By means of this plate an iron, round or oval on side and flat on the other, may be forged.

I do not confine myself to any particular form or arrangement of dies, but design to vary them as may be required; nor do I confine myself to the precise form and arrangement of the other parts of the machine, as they may be varied in many ways without departing from my invention.

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

1. A swaging-machine, consisting of a series

of movable hammer-spring dies or swages and die-plate and die-plate bed, the former plate being made adjustable on its bed and the plate and bed being made adjustable on the bed-plate of the machine, substantially as shown and described.

2. The hammer-die bar *H*, guide-rods *E*, springs *G*, and treadle *K*, substantially as described, for the purposes set forth.

3. The removable clamp *e*, in combination with the die-plate *P*, as and for the purposes described.

HENRY M. CRIPPEN.

Witnesses:

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JOHN M. CRIPPEN.