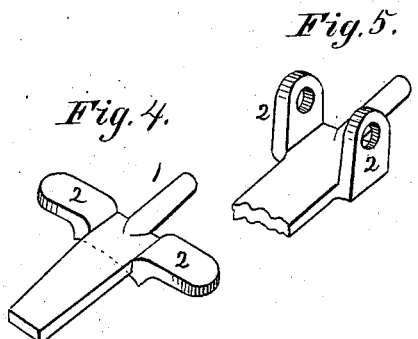
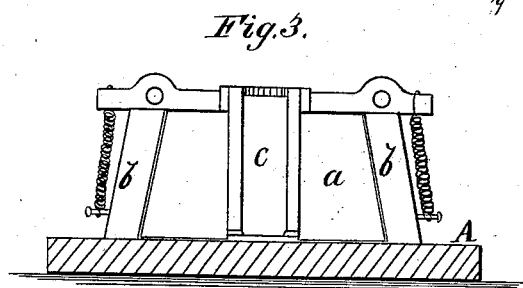
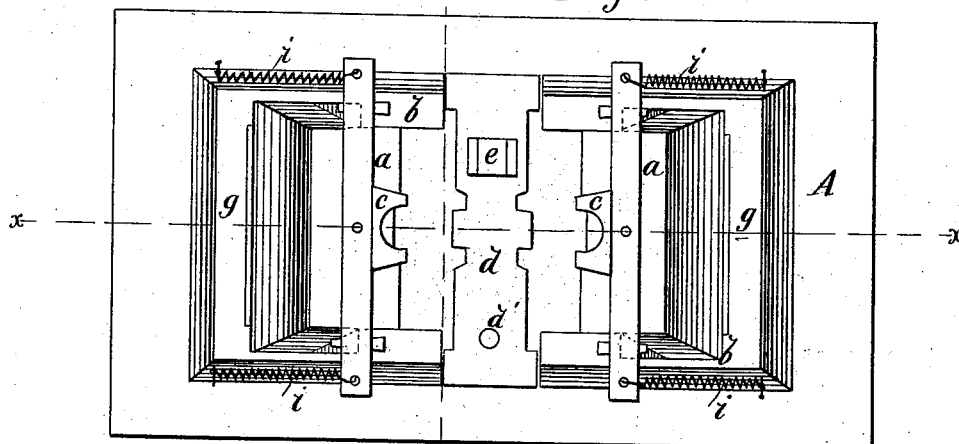
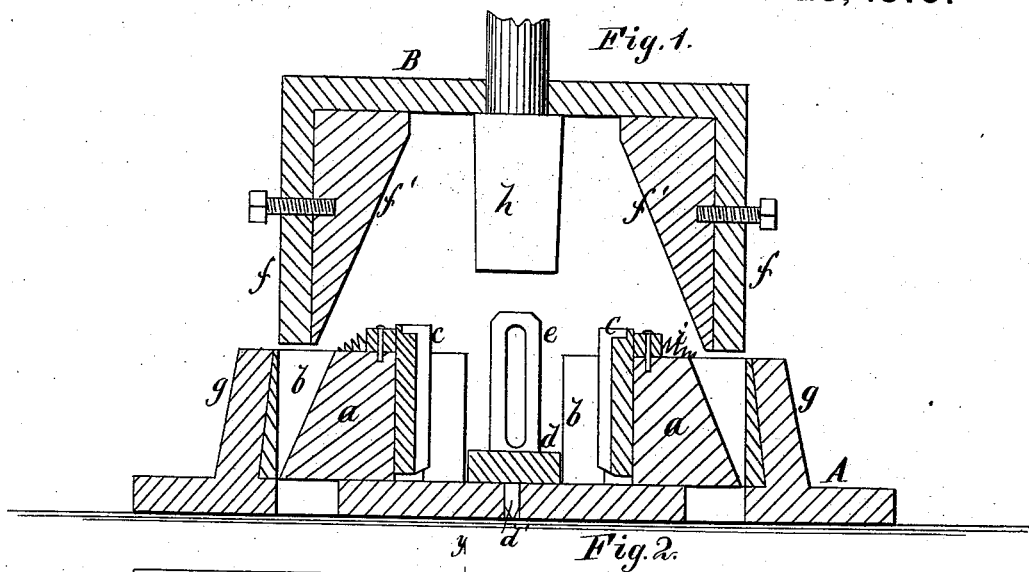


Patented Oct. 28, 1879.



WITNESSES:

Henry W. Miller
C. Seagwick

INVENTOR:

INVENTOR:
S. M. Howell
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

STRATTEN M. ROWELL, OF PORT CHESTER, NEW YORK, ASSIGNOR TO
JOSIAH WILCOX, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR FORMING CARRIAGE-SHACKLES.

Specification forming part of Letters Patent No. **221,102**, dated October 28, 1879; application filed
June 2, 1879.

To all whom it may concern:

Be it known that I, STRATTEN M. ROWELL, of Port Chester, in the county of Westchester, and State of New York, have invented a new and Improved Machine for Forming Carriage-Shackles, of which the following is a specification.

My improvements relate to machines for bending carriage-shackles; and the invention consists in the construction and combination of the bending-dies, which will be described in connection with the accompanying drawings, wherein—

Figure 1 is a vertical longitudinal section of the machine. Fig. 2 is a plan view with the drop removed. Fig. 3 is a vertical cross-section on line *x x* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A is the bed of the machine, upon which the die-stocks *a a* are fitted for horizontal movement to and from each other in the slideways *b b*, which stocks and slideways are dovetailed to prevent the stocks from rising.

The dies *c* are fitted in dovetail grooves in the adjacent faces of the stocks *a*, so that the dies can be changed readily, according to the size required.

Upon the bed A, between the slideways *b*, is fitted a plate, *d*, that limits the distance to which the stocks close, and upon this plate *d* is a slotted standard, *e*, for keeping the shackle in the position for the proper operation of the dies. This plate *d* is retained against side movement by the slides *b*, and is prevented from movement lengthwise by a pin, *d'*, that projects from its under side through a hole in frame A, and this construction permits change of the plates for different-sized shackles.

The die-stocks are moved inward by the beveled blocks *f'* of the drop B, which act between the beveled rear ends of the stocks *a* and the abutments *g*, formed by the back part of the slideways *b*.

The drop B is moved by any desired means,

and by the contact of the inclined surfaces described a powerful wedge action is obtained.

The faces of the projections *f* are fitted with inclined blocks *f'*, that may be adjusted by a screw to set them in or out to compensate for wear, and according to the extent of movement required.

Upon the drop B, between the projections *f*, is the holding-die *h*, which holds the shackle down upon the plate *d*, and against which the sides of the shackle are bent.

In Fig. 4 a shackle is shown in its form before, and in Fig. 5 after, it is bent by the machine.

The bolt 1 of the shackle will be inserted through the slotted projection *e* of plate *d*, and the stocks *a* being then forced up by the drop the holding-die *h* will give the first bend; and dies *c* will bend the ears 2 up at right angles against the faces of the holding-die to form the shackle, as shown. Upon withdrawal of the drop the stocks *a* are drawn back by springs *i i*, arranged in any desired manner, and the shackle may then be removed.

The shackle is brought to the required shape previous to bending by drop-presses, in any desired manner. As shown, the angle at the bend is formed previous to the bending, and the bending is done above the angle of the finished shackle, so that the shackle is not weakened at the angle, but the metal is consolidated by the bending-dies.

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

The combination of the drop B, provided with the projections *f*, beveled blocks *f'*, and die *h*, with the dies *c*, stocks *a*, springs *i*, abutments *g*, and plate *d*, having slotted standard *e*, as and for the purpose specified.

STRATTEN M. ROWELL.

Witnesses:

C. SEDGWICK,
GEO. D. WALKER.