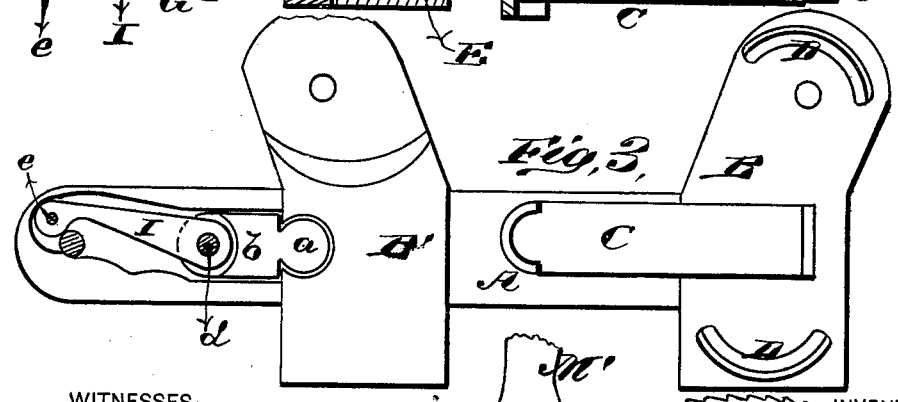
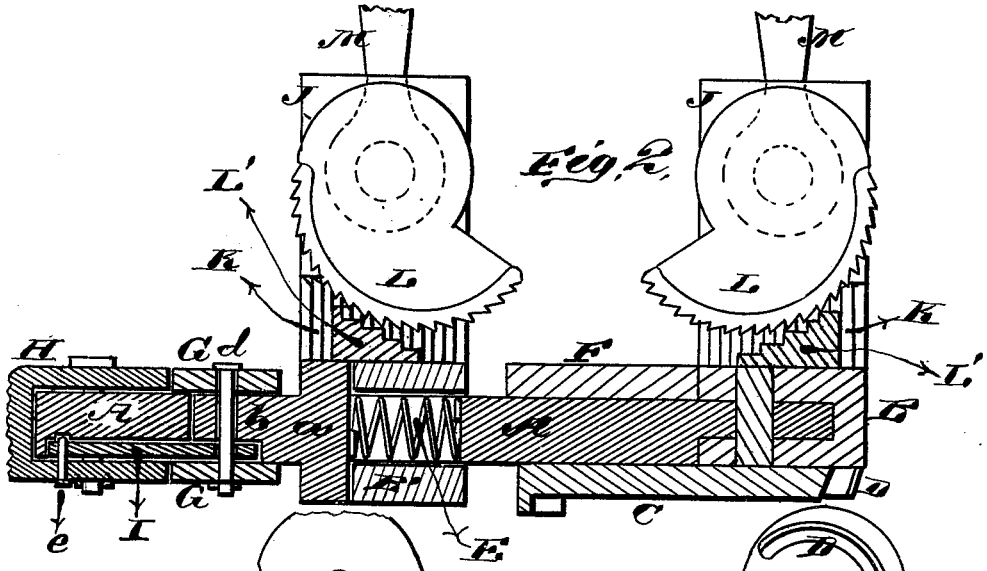
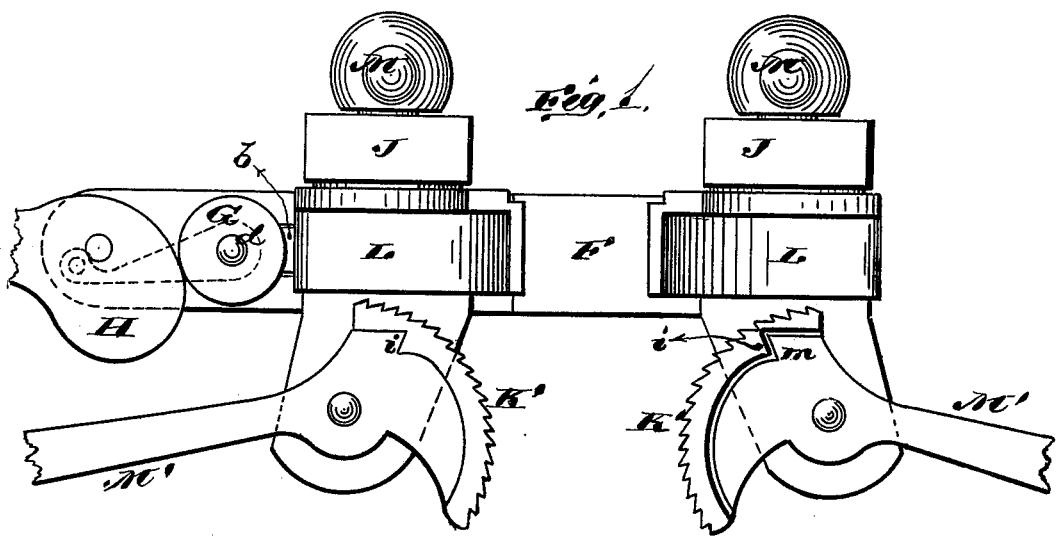


H. ROSS, Sr.  
Machine for Upsetting Bars and Tires.

No. 198,216.

Patented Dec. 18, 1877.



WITNESSES:  
*A. Bates*  
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# UNITED STATES PATENT OFFICE.

HUGH ROSS, SR., OF PLATTSBURG, ASSIGNOR TO HENRY BUTLER, OF  
MOOERS, NEW YORK.

## IMPROVEMENT IN MACHINES FOR UPSETTING BARS AND TIRES.

Specification forming part of Letters Patent No. **198,216**, dated December 18, 1877; application filed  
August 25, 1877.

*To all whom it may concern:*

Be it known that I, HUGH ROSS, Sr., of Plattsburg, in the county of Clinton and State of New York, have invented a new and valuable Improvement in Tire-Shrinkers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my tire-shrinker. Fig. 2 is a sectional plan view. Fig. 3 is a side view, and Fig. 4 is a perspective detail thereof.

The nature of my invention consists in the construction and arrangement of a compressing-machine for steel, iron, and other metals, as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the base of the machine, provided at one end with a stationary head, B, having on its under side a bench-gripe, C, and vise-gripe D, as shown. The base A is also provided with a sliding head, B', pressed outward from the head B by means of a spring, E, concealed within the base and head. This spring bears against a pin, *a*, in the head B', and this pin moves with the head in a slot in the base A. Said pin has an arm, *b*, through the end of which passes a pin, *d*. On each end of this pin is a roller, G, while in a groove in the under side of the base is placed a link, I, also pivoted on the pin *d*.

The link I is operated by means of a pin, *e*, projecting through its end from a handle, H, which is slotted or forked, and straddles and is pivoted to the end of the base A. The inner end of the handle H is cam-shaped, and bears against the rollers G, so that a powerful pressure is brought to bear by means of the handle H to move the head B' inward. Near the head B on the base A is an anvil, F.

The devices upon the two heads B and B' being exactly alike, I shall only describe one, it being understood that both heads have corresponding parts.

Upon one end of each head is secured a standard, J, having along its face, at the lower end, a toothed or corrugated die, K. Above the same, to the standard, is pivoted a toothed or corrugated cam-shaped die, L, operated by means of handle M. The inner side of this cam-die is so shouldered or offset that it will pass over the die K, and yet allow its toothed cam-surface to work against a beveled, toothed, or corrugated die, L', which is placed upon the head and held thereto by dowel-pins or other suitable means.

In connection with the die K is used a die, K', attached to a lever, M', pivoted on top of the head, near the end. This die K' is cam-shaped, and is formed with a bottom flange, *h*, and a notch, *i*, the inner end of the handle being shaped to correspond with a tooth, *m*, to enter said notch, so that when the die is fastened to the handle by a single screw there will be a firm bearing for the die, substantially as shown.

This machine is intended for compressing steel, iron, and other metals, to upset or compress tires, axle-trees, machine-bolts, braces, bands, &c., welding shafting, railroad-rails, &c., and many other purposes.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the base A, sliding head B', spring E, pin *a*, with arm *b*, pin *d*, rollers G G, link I, and handle H, all constructed substantially as and for the purposes set forth.

2. In a tire-upsetting machine, the combination, with the die K, of the cam-shaped die K', having flange *h* and notch *i*, and the pivoted lever M', having tooth *m*, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HUGH ROSS, Sr.

Witnesses:

GEO. L. CLARK,  
F. A. BUTLER.