J. J. ROSE.

Machine for Upsetting, Cutting, and Punching Iron.

No. 49,158. Patented Aug. 1, 1865.

Fig. 1

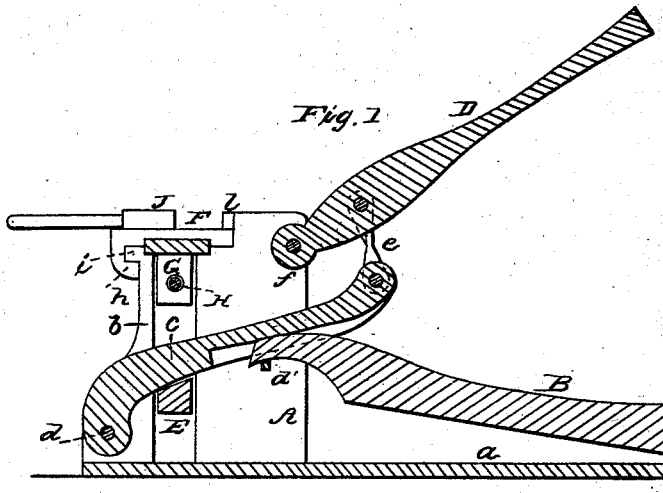


Fig. 2.

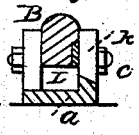


Fig 3

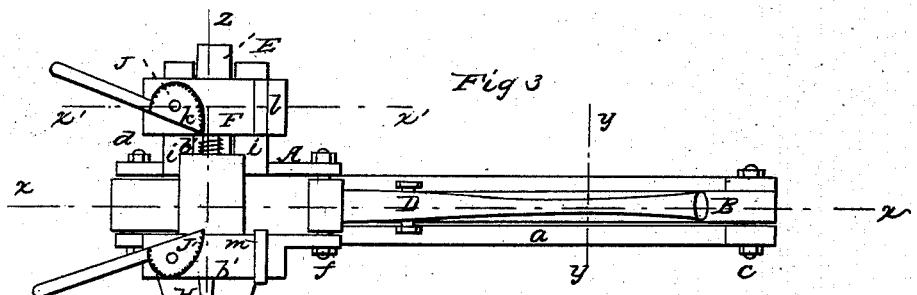


Fig. 4.

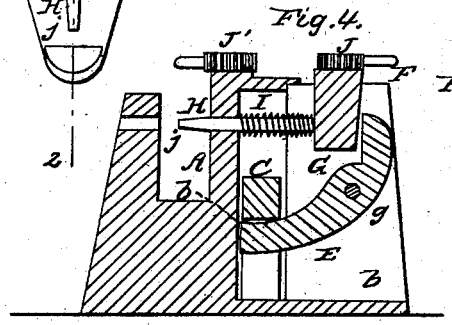
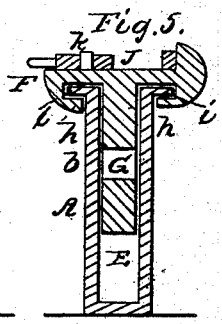


Fig. 5.



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UNITED STATES PATENT OFFICE.

J. J. ROSE, OF ELMWOOD, ILLINOIS.

MACHINE FOR UPSETTING, CUTTING, AND PUNCHING IRON.

Specification forming part of Letters Patent No. **49,158**, dated August 1, 1865.

To all whom it may concern:

Be it known that I, J. J. ROSE, of Elmwood, in the county of Peoria and State of Illinois, have invented a new and Improved Machine for Shrinking Tires and Cutting and Punching Iron; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a transverse vertical section of the same, taken in the line *y y*, Fig. 3; Fig. 3, a plan or top view of the same; Fig. 4, a transverse vertical section of the same, taken in the line *z z*, Fig. 3; Fig. 5, a longitudinal vertical section of the same, taken in the line *x' x'*, Fig. 3.

Similar letters of reference indicate corresponding parts.

This invention consists in a novel arrangement of levers with clamps, a punch, and a cutting device, as hereinafter fully shown and described, whereby tires for wheels may be shrunk and iron cut and punched, the whole forming a compact and portable machine convenient for a smith's shop.

A represents the stock or frame of the machine, the same being composed of a horizontal bar, *a*, having two upright blocks, *b b'*, at one end, with a space between them to admit of the insertion and working of two levers, B C, the fulcrum-pin *c* of the lever B being at the outer end of the bar *a*, and the fulcrum-pin *d* of C being at the outer sides of the blocks *b b'*, the free or disengaged ends of the levers B C overlapping each other, as shown in Fig. 1, and the under side of lever C having a hook, *d'*, attached to it, which passes under B to form a connection between said levers. The free or disengaged end of the lever C is connected by a link, *e*, to a lever, D, the fulcrum-pin *f* of which is at the inner sides of the blocks *b b'*. This lever D serves as a handle through which the implement or device is worked. The block *b* is formed or cast with a vertical recess in it to receive a curved lever, E, *g* being the fulcrum-pin thereof.

The lever C is over the lower part of the lever E, as shown in Figs. 1 and 4, and the upper part of the lever E extends up at the outer side of a slide, F, which works on the top of the block *b*, said slide being provided at each end with a lip, *h*, which projects underneath flanges *i* on the top of *b*. (See Fig. 5.)

The slide F is provided with a pendant, G, to which a punch, H, is attached horizontally, said punch working through a recess, *j*, in the block *b'*, and having a spiral spring, I, upon it, one end of which bears against the pendant G and the other end against the block *b'*, as shown in Fig. 4.

On the top of the slide F there is secured by a pivot, *k*, a dog, J, one end of which is rounded to form an eccentric curve, and serrated, as shown clearly in Fig. 3. A similar dog, J', is pivoted to the upper surface of the block *b'*, the two dogs having opposite positions. The slide F is provided with a vertical lip, *l*, and a similar lip, *m*, is at the top of the block *b'*. These dogs and lips form clamps to grasp the tire to be shrunk, and they are arranged in the same way as those shown in ordinary tire-shrinkers.

The lever B has a knife, K, attached to one side of it, and this knife works over a ledger-blade or stationary knife, L, at one side of the bar *a*. (See Fig. 2.)

The operation is as follows: When tires are to be shrunk or contracted the lever D is thrown upward, and the slide F is moved outward from the block *b'* to the extent of its movement. The tire is then heated at the part where it is to be shrunk, and the heated portion is fitted between the dogs J J' and lips *l m*, the lever D being then forced down, by which the dog J and lip *l* are made to grasp the tire, the slide F under the action of lever E, which is moved by the lever C, being made to approach or move toward the block *b'*, and thereby contract the heated part of the tire. Iron is cut by the knives K L and punched by the punch H. The knife K and punch H, it will be seen, are both operated at the same time.

The machine is extremely simple, and may be constructed at a small cost, and will prove valuable for blacksmiths, as it may be used for the several purposes specified and occupy but little space.

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

Combining in a complete and portable machine a device for shearing metal, a device for punching metal, and a device for upsetting tires, the several devices being constructed and arranged substantially as described.

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