

(No Model.)

G. S. COMSTOCK.
UPSETTING MACHINE.

No. 459,995.

Patented Sept. 22, 1891.

Fig. 1.

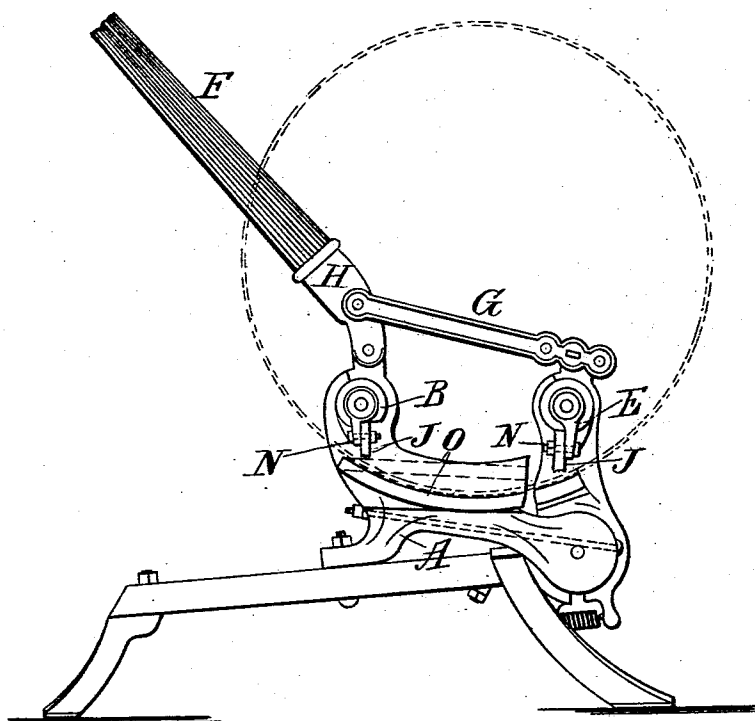


Fig. 2.

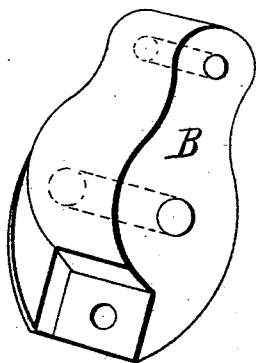


Fig. 3.

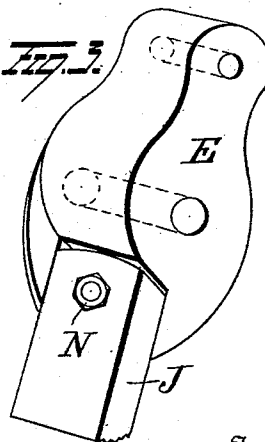
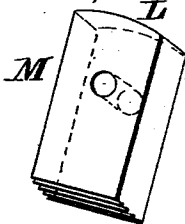


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE STEDMAN COMSTOCK, OF MECHANICSBURG, PENNSYLVANIA,
ASSIGNOR TO HAUCK & COMSTOCK, OF SAME PLACE.

UPSETTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 459,995, dated September 22, 1891.

Application filed June 26, 1891. Serial No. 397,628. (No model.)

To all whom it may concern:

Be it known that I, GEORGE STEDMAN COMSTOCK, of Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have
5 invented certain new and useful Improvements in Upsetting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as
10 it appertains to make and use the same.

My invention relates to an improvement in upsetting-machines.

This invention relates to that class of machines used for "upsetting," "shortening," or
15 "shrinking" metallic pieces, such as the tires of wheels, axles, and various other articles. The essential parts of such machines are gripping devices to hold the pieces on each side of the part to be "upset," in combination with
20 means to force these gripping devices toward each other, thus shortening or upsetting the part which had been previously heated to a proper degree.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved machine. Fig. 2 is a detached view of jaw E without a claw attached. Fig. 3 is a similar
25 view with a claw attached, and Fig. 4 is a view of a claw.

Referring to the drawings, which show one form of upsetters, A is the main frame or bed-plate, upon which is hung the swinging jaw B.

C is a swinging arm fulcrumed on stud D and carrying a swinging jaw E similar to B.

35 F is a lever; H, a socket, in which lever F is inserted. G is a connecting-rod, all so arranged that by a downward pressure on the lever F the piece to be operated upon is tightly gripped, and the heated portion of the article
40 operated upon is compressed and shortened, or upset.

The mechanism described is but one of many forms to accomplish the same object.

The improvements I have made upon existing machines are as follows: First, a detachable toothed or suitably-shaped claw J, bolted or otherwise attached to each of the swinging
45 jaws B and E. The said detachable parts J come in contact with the piece operated on and are easily and cheaply adjusted or replaced when worn. The detachable claws J

are so arranged and fastened to the swinging jaws B and E that the said claws J may be adjusted to bear evenly upon the whole width of the article operated upon.

55 In building such machines it sometimes happens that the swinging jaws, when made in one piece without detachable claws, are not so exactly hung on the studs upon which they swing or are not otherwise so fitted as to bring
60 their lower edges in even contact with the piece operated on across its whole width, or the pins upon which the said jaws swing may bend, or from some other cause be out of line with the bed-plates, so as to cause the piece
65 operated on to be gripped tighter on one edge than on the other, resulting either in bad work or slipping of the jaws upon the piece operated on, and this improvement is designed to overcome such and similar difficulties, as well
70 as to admit of easy and cheap renewal when worn out or broken. The result may be attained by the use of various forms of detachable claws in connection with the swinging
75 jaws B and E. In any arrangement I make provisions for adjusting the detachable claw to or from the piece operated upon and angularly from side to side until it bears evenly and fairly across the whole width of the piece
80 operated upon, even though from construction or otherwise a solid jaw without such detachable claws might bear on one edge.

Another valuable feature of this improvement is the cheap renewal of the detachable
85 claws when broken or worn. One form of such detachable claw I will describe as follows: See drawing M, where the upper edge L is curved, so that it can be moved slightly from side to side, and M shows one or more edges or teeth, which bear upon the piece operated
90 upon. The manner of fastening the claws J J by bolts N N to jaws B and E is shown in drawings, as before noted. There are many devices for attaching claws J J to jaws B and E by which the same result may be attained,
95 and the above is given as one approved method, the invention consisting in the detachable claws of any suitable form fastened by any suitable means to the swinging jaws, so as to admit of adjustment and replacing
100 practically as described; also, I have invented removable or reversible seat O O for the pur-

pose of admitting curved pieces to be operated upon, such as tires of various diameters, as well as straight pieces, such as axles, &c., which object is attained by having either several pieces O O, having various curved or straight surfaces, which pieces O O can be readily removed or inserted to suit various forms to be operated on, or the pieces O O may be so constructed that the object sought may be attained by reversing them or presenting several different faces of the same pieces O O to the pieces operated upon, or the said pieces O O may be raised or lowered or otherwise adjusted by set-screws, wedges, or similar devices. (Not shown.)

In addition to the features enumerated, I strengthen the parts of an upsetting-machine, which are subject to tensile strains by the addition in, through, or about such parts of rods of wrought-iron, steel, or other material of greater tensile strength than the materials of the said parts subject to strain, the said rods being cast in or in any manner so placed in or about the piece to be strengthened as to attain the desired result.

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

1. In an upsetting-machine, the combination, with bed-plate and vibrating jaws, of detachable gripping-claws adapted to be connected with the jaws, substantially as set forth.

2. The combination, with bed-plate and gripping-jaws, of a seat removably secured to the bed-plate, substantially as set forth.

3. The combination, with bed-plate, arm fulcrumed on the latter, and pivoted jaws, of removable claws adjustably connected with the jaws, substantially as set forth.

4. The combination, with bed-plate, of strengthening rods or braces arranged to strengthen and support the bed-plate in the direction of the tensile strain, substantially as set forth.

5. In an upsetting-machine, a jaw having a socket therein, and a removable claw adapted to be adjustably secured in the socket, said claw having a rounded inner end, substantially as set forth.

6. The combination, with a bed-plate, a hinged arm, and a removable seat removably secured to said parts, of pivoted jaws having removable claws therein, means for operating these jaws simultaneously, and strengthening-rods to give support to the device, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE STEDMAN COMSTOCK.

Witnesses:

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