

(No Model.)

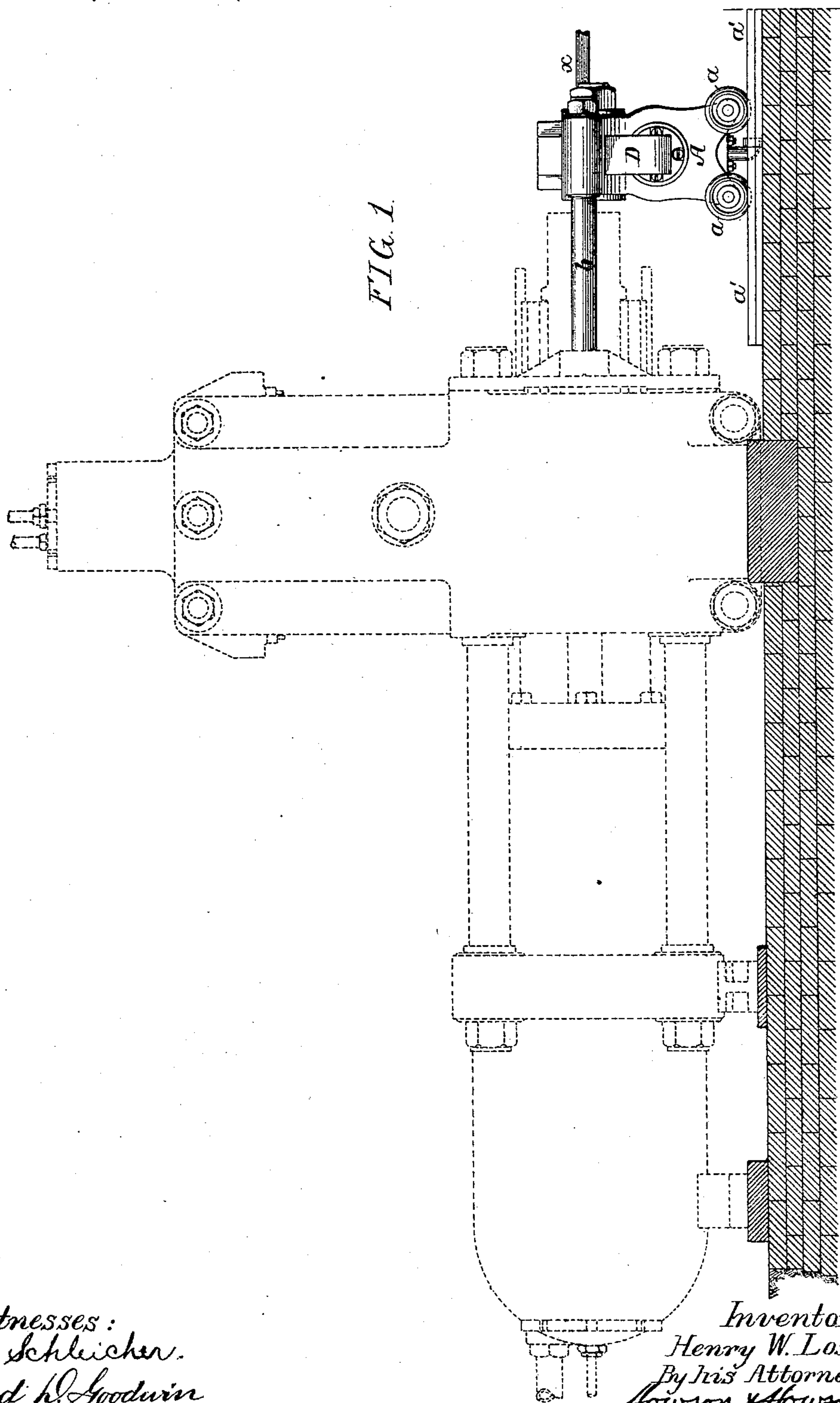
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H. W. LOSS.

GRIPPING DEVICE FOR FORGING MACHINES.

No. 486,723.

Patented Nov. 22, 1892.



Witnesses:  
R. Schleicher.  
Fred H. Goodwin

Inventor:  
Henry W. Loss  
By His Attorneys  
Howson & Howson

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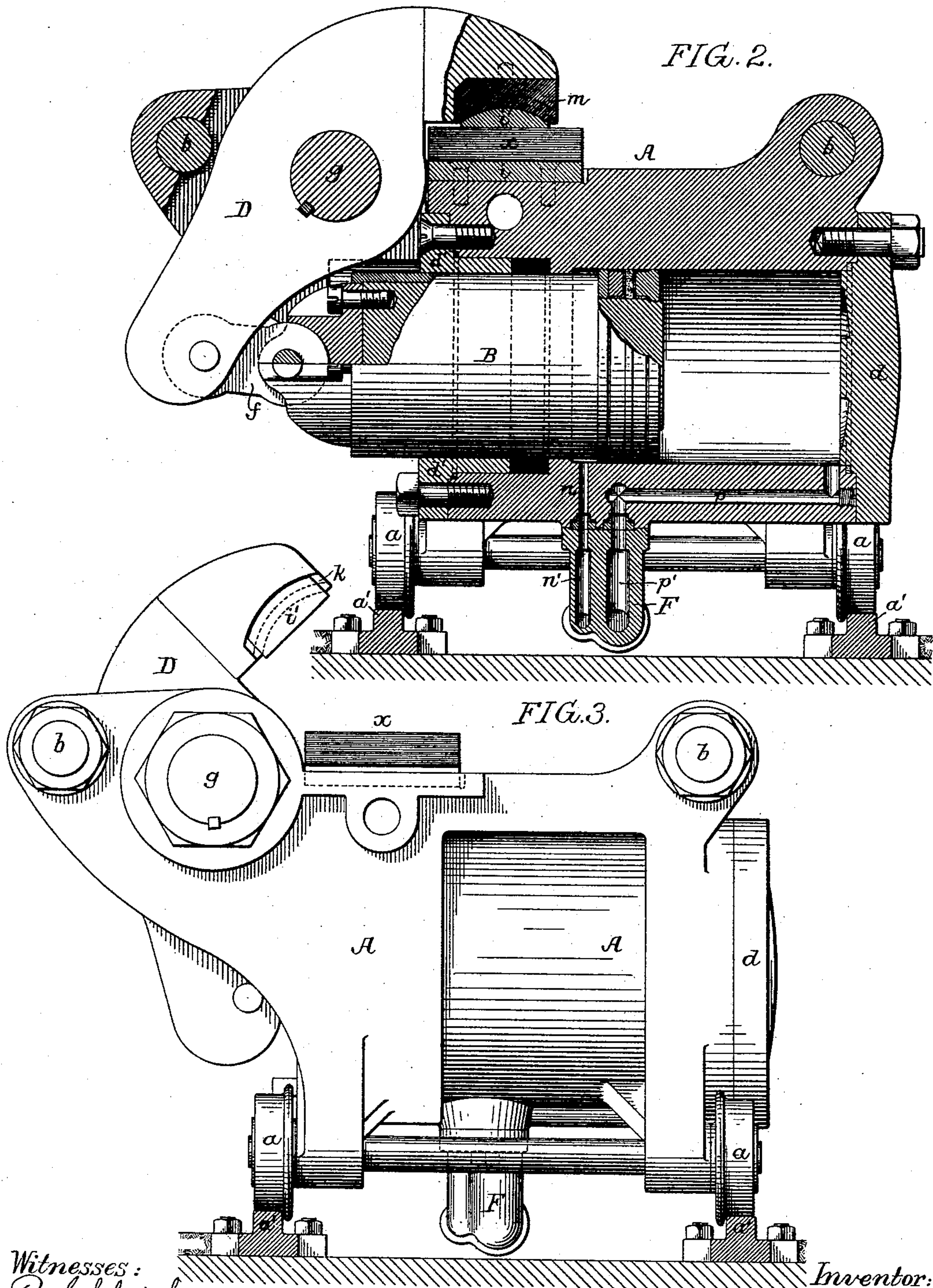
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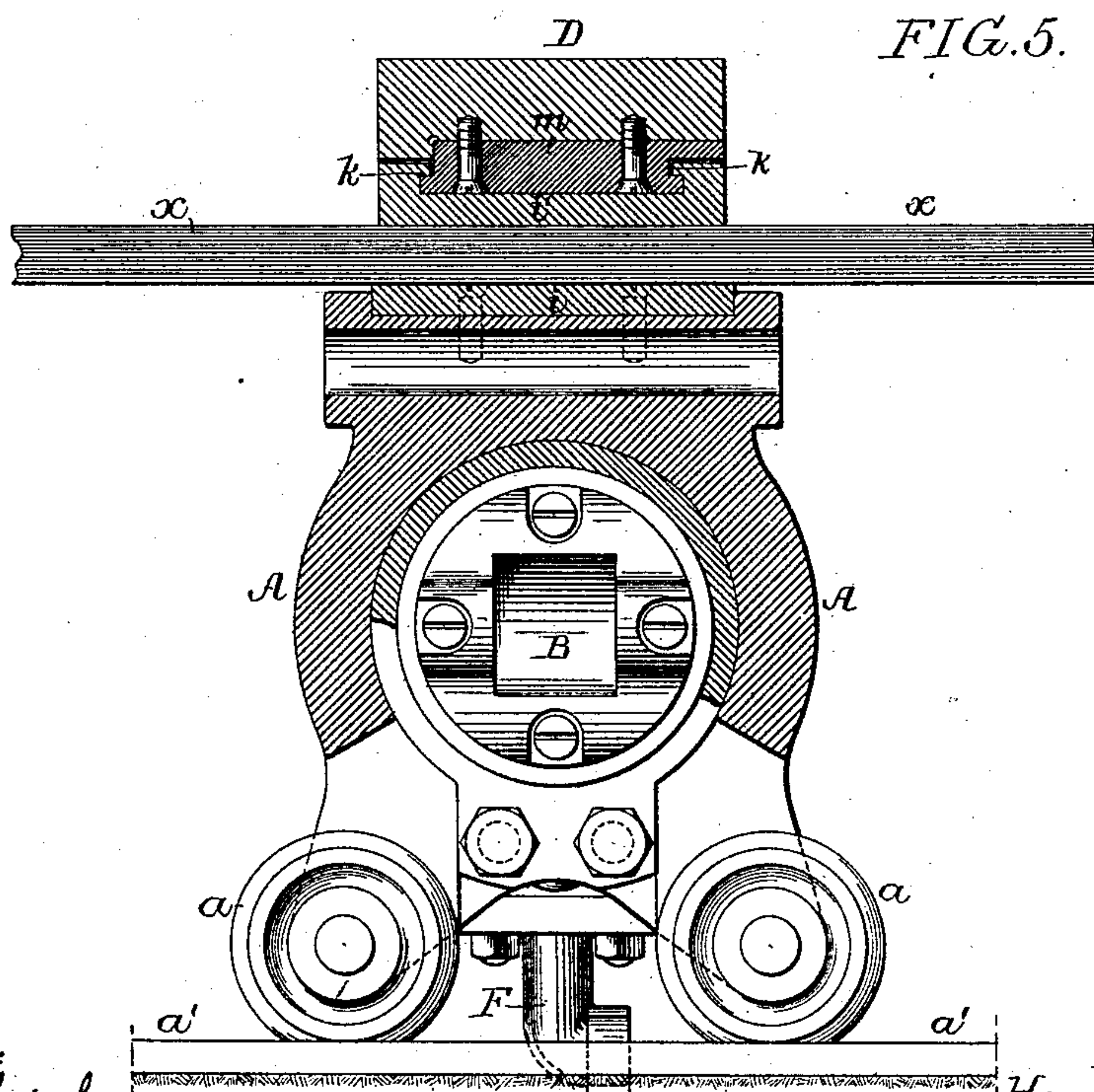
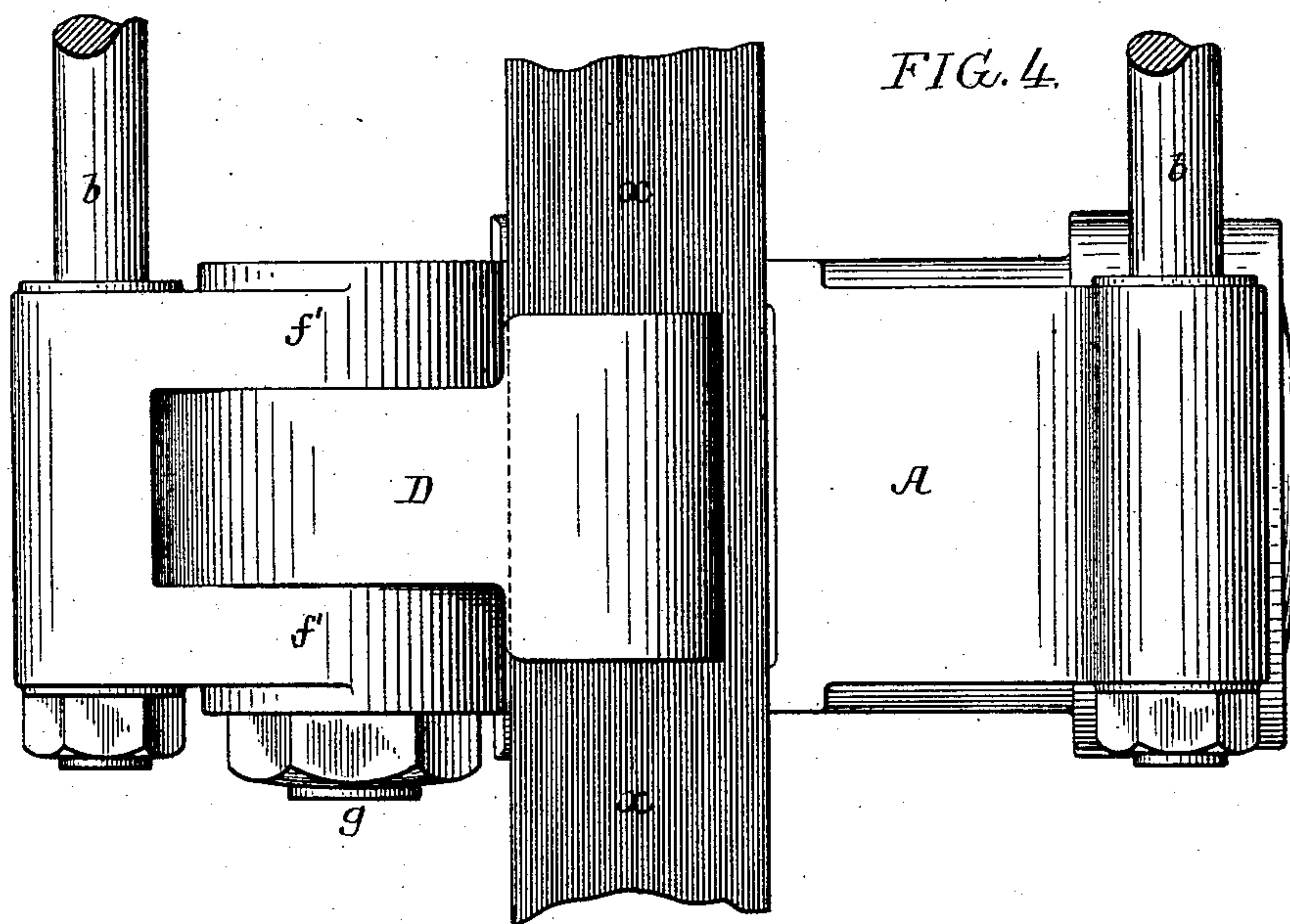
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# UNITED STATES PATENT OFFICE.

HENRY W. LOSS, OF PHILADELPHIA, PENNSYLVANIA.

## GRIPPING DEVICE FOR FORGING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 486,723, dated November 22, 1892.

Application filed July 13, 1891. Serial No. 399,313. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. LOSS, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Gripping Mechanism for Hydraulic Forging-Machines, of which the following is a specification.

My invention relates to gripping devices for bars upon which eyes are formed by hydraulic pressing mechanism, the object of my invention being to so construct such a gripping device that the bar may be readily applied to or removed from the same, and when in position will be held upon its flat sides instead of upon its edges, such a firm hold of the bar being thereby secured as to prevent displacement of the same under the end-thrust imparted to it during the pressing operation. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of my improved gripping device, showing the same in its relation to the press, which is shown mainly by dotted line. Fig. 2 is a transverse section, partly in elevation, of the gripping device, showing the gripping-jaw closed. Fig. 3 is an end view of the gripping device, showing the jaw open. Fig. 4 is a plan view. Fig. 5 is a view partly in side elevation and partly in section.

The main body or casing A of the gripping device (shown in Figs. 1 to 5) is mounted upon rollers *a*, adapted to rails *a'* on the foundation, so that said gripping device can be moved toward and from the press, the device in practice being adjusted to a position as close to the press as practicable, in order that the bar *x* may be held at a point as close as possible to that end of the bar upon which the eye is being formed, the gripping device being secured to the projecting side bolts *b* of the press structure, as shown in Fig. 1.

The body A of the gripping device is bored out transversely, so as to form a cylinder with head *d* and stuffing-box *d'*, and to this cylinder is adapted the plunger B, to the outer end of which is hung by means of a link *f* the long arm of a lever D, which is contained between cheek-pieces *f'* on the body A, and is mounted upon a substantial bolt *g*, free to turn in bearings in said cheek-pieces.

When the plunger B is projected, the short arm of the lever D projects laterally over the body of the gripping device, so that the bar *x* can be firmly clamped on its flat sides between the jaw *i*, secured to the body A and a jaw *i'*, which is mounted upon curved guides *k* at the ends of a block *m*, carried by the short arm of the lever D, the back of the said jaw *i'* being convexed and adapted to a concave recess in the under side of said block *m*, as shown in Fig. 2, so that said jaw *i'* is capable of a certain amount of swiveling or adjusting movement on the block *m* to permit it to accommodate itself to slight variations from the horizontal in the upper surface of the bar *x*.

In the body A are passages *n* and *p*, which communicate with like passages *n'* and *p'* in a duplex casing F, secured to the lower portion of said body, the passage *p'* communicating with the pipe which supplies liquid under pressure to the cylinder to force the plunger B outward and the passage *n'* communicating with the pipe which furnishes liquid under pressure to retract the plunger, the pipe which communicates with the passage *p'* being provided with valves, as usual, whereby it is opened to the exhaust when the plunger is to be retracted. When the plunger is projected, the full force exerted by the same, plus the leverage of the lever D, is exerted to confine the bar *x* between the fixed and movable jaws *i i'*, so that the bar is rigidly held against displacement, due to the end-thrust upon the same in the formation of the eye, and is also prevented from buckling in that portion which intervenes between the dies of the press and the gripping-jaws, a result which has been found to be practically impossible of accomplishment when the bar is gripped at the edges instead of on its flat sides. When the plunger B is retracted, moreover, the upper arm of the lever D and its jaw *i'* are carried laterally away from the fixed jaw *i*, so that the bar can be readily introduced into the jaws from above.

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

1. The within-described gripping device, the same consisting of a body structure carrying a fixed gripping-jaw, a lever hung to said body, a cylinder and plunger, a gripping-

jaw fitted to curved guides on one arm of said lever, and a connection between the other arm of the lever and the plunger, substantially as specified.

- 5 2. The within-described gripping device, consisting of a body structure carrying a fixed lower jaw, a cylinder having a plunger, a lever having two arms, one of which projects inwardly over the fixed jaw, a connection be-  
10 tween the plunger and the other arm of the

lever, and a gripping-jaw carried by the inwardly-projecting arm of the lever, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

HENRY W. LOSS.

Witnesses:

WILLIAM D. CONNER,  
HARRY SMITH.