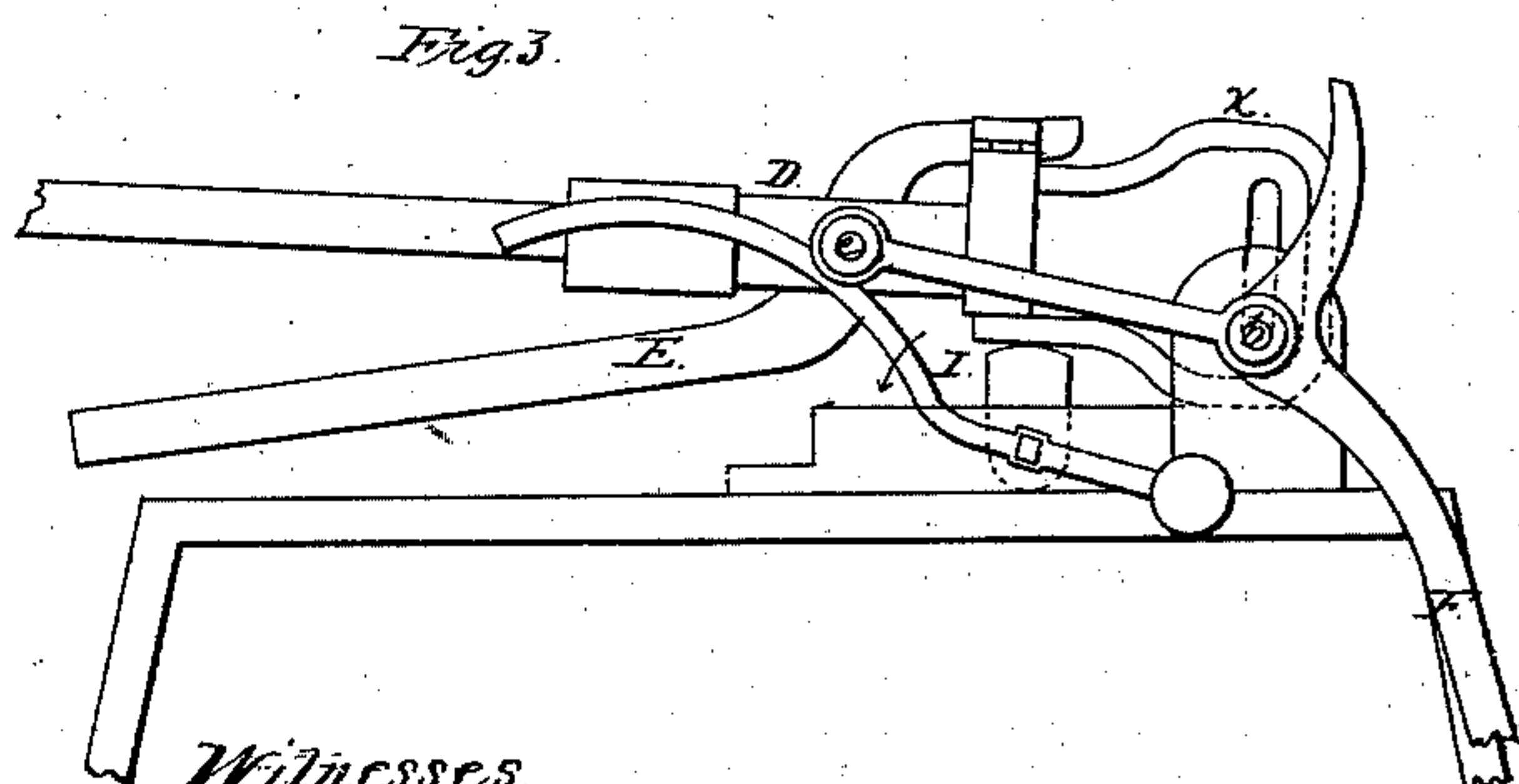
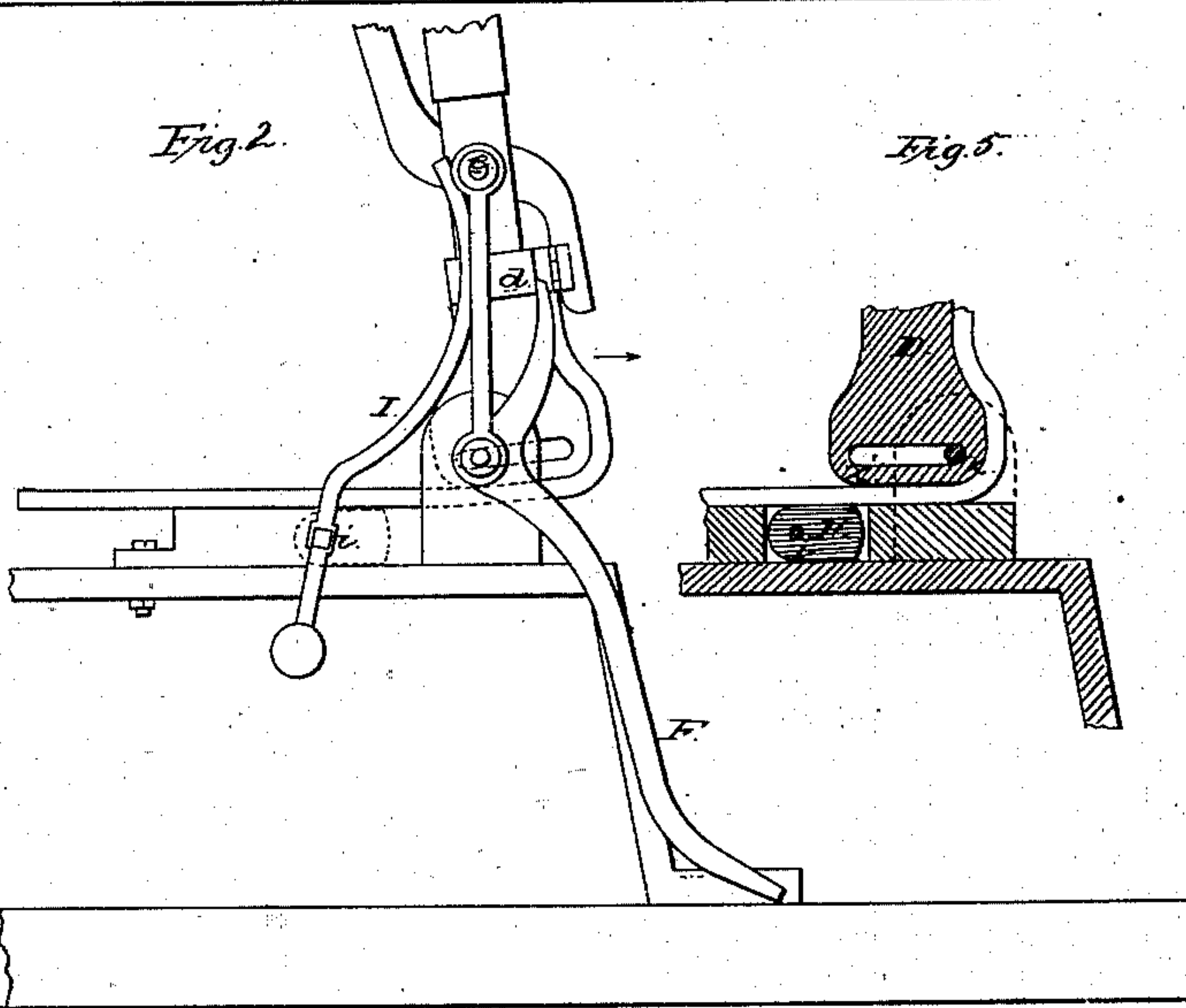
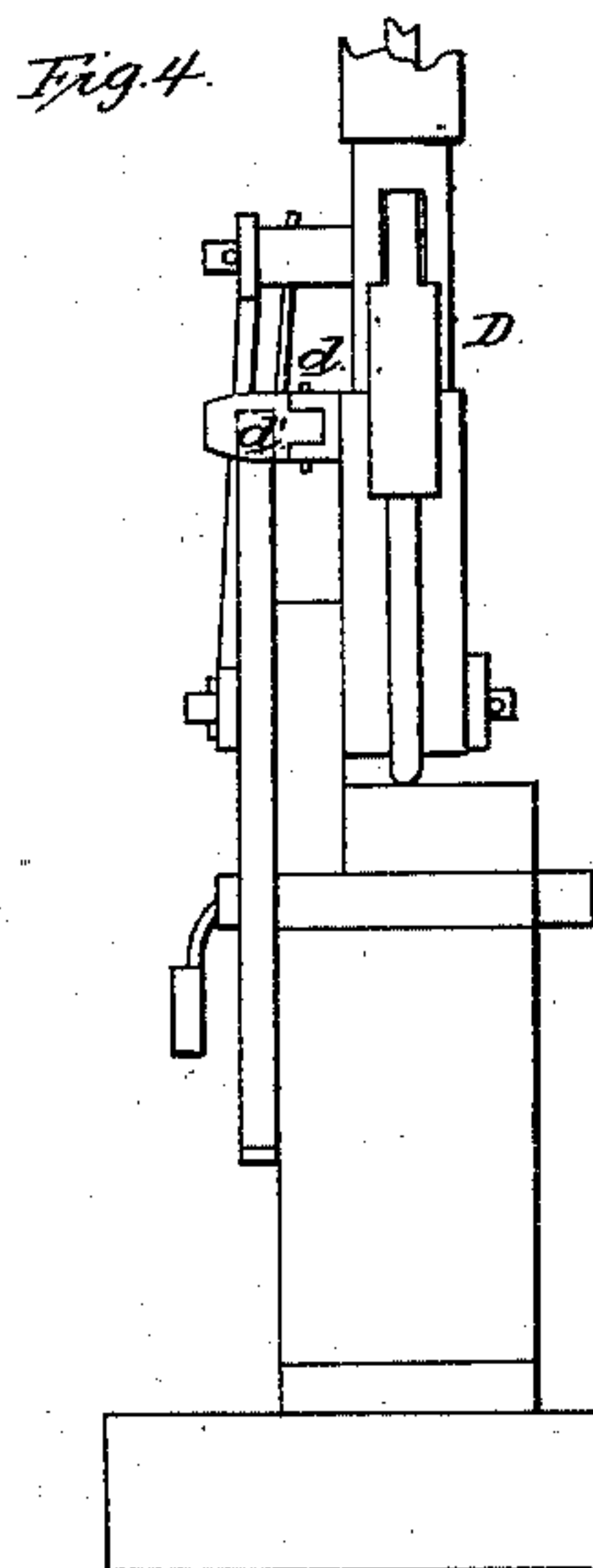
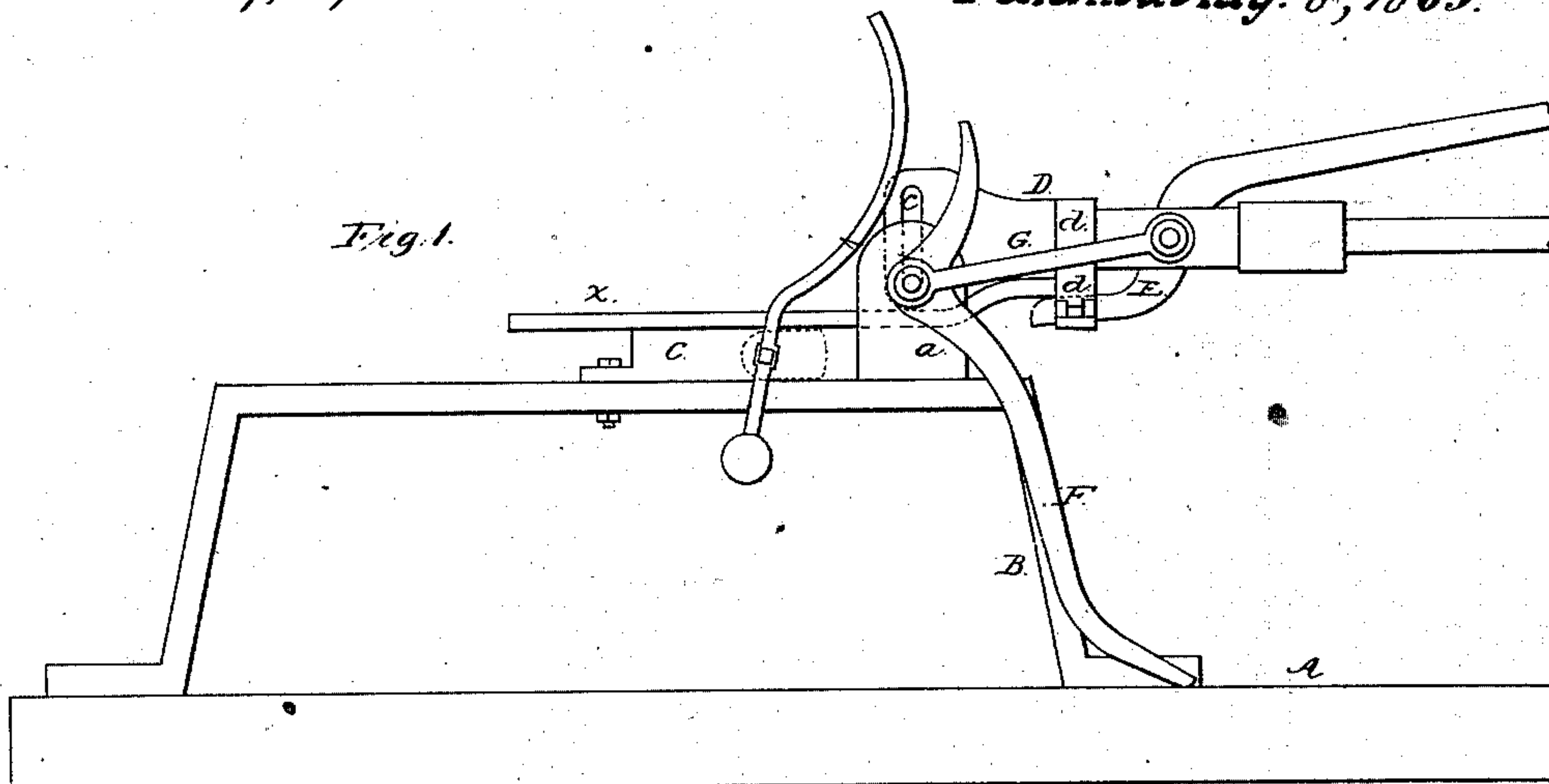


G. J. Neveil.

Bending Metal Rods.

N^o 49, 294.

Patented Aug. 8, 1865.



Witnesses.
Wm. Albert Steel.
Charles Howson

Inventor.
H. Brown
(per C. Howson)
Atty for G. J. Neveil.

UNITED STATES PATENT OFFICE.

GEORGE J. NEVEIL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED MACHINE FOR BENDING METAL RODS.

Specification forming part of Letters Patent No. 49,291, dated August 8, 1865.

To all whom it may concern:

Be it known that I, GEORGE J. NEVEIL, of Philadelphia, Pennsylvania, have invented an Improved Machine for Bending Metal Rods; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in a slotted lever combined with devices described hereinafter, or their equivalents, so that a bar of metal may be bent to a shape corresponding with that of the end of the lever.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figures 1, 2, and 3 are side views of my improved machine for bending metal rods, showing the parts in different positions; Fig. 4, an end view, and Fig. 5 a detached sectional view.

Similar letters refer to similar parts throughout the several views.

B is a frame, which rests on the base A, and to which is secured a detachable block or anvil, C. At the side of the anvil, near one end of the frame, is a plate, *a*, from which projects a pin, *b*, the inner end of the said pin passing through an elongated slot, *c*, in the enlarged end of a lever, D, the end of the said lever being parallel with the slot *c*, and the edges, *x x'*, being rounded, as shown in the drawings.

At the side of the lever D is a plate, *d*, to the end of which a smaller plate, *d'*, is so hinged that it cannot be turned back farther than at right angles to the plate *d*.

To a pin, *e*, which passes through a slot in the lever D, is hung a lever, E, the short arm of which corresponds in form with the side of the lever D to which it is adjacent, for a purpose described hereinafter. To the projecting end of the pin *b* is also hung a lever, F, of the form shown in the drawings, the long arm of the said lever extending nearly to the base of the machine.

To a rod, *i*, which projects through a recess in the anvil C, is secured a cam, H, and to the

outer end of the rod is attached a weighted lever, I, the upper arm of which bears against the side of the pin *e*.

Operation: When a bar of metal has to be bent, the lever D is brought to the position shown in Fig. 1 and the bar is introduced between the end of the lever and the face of the anvil until its end is opposite the plate *d*. The long arm of the lever E is then brought down to the lever D, so that the bar shall be pressed against the side of the latter by the short arm of the lever E and be firmly held between the two. The lever D is then brought to a vertical position, in doing which the bar is bent round the edge *x* of the lever, as shown in Fig. 4, the plate *d'*, as the lever is raised, engaging with the upper arm of the lever F, so that the latter is brought to the position shown in Fig. 2. The attendant now presses down the lower arm of the lever F by bearing on the same with the foot. The upper arm is thus caused to bear against the side of the plate *d'* and move the lever D in the direction of the arrow, Fig. 2, a distance equal to the length of the slot *c*. The lever D is then turned down to the position shown in Fig. 3, the bar being bent round the edge *x'*. As the lever is brought to this position the pin *e*, by bearing against the upper arm of the lever I, turns it in the direction of the arrow, Fig. 3. The cam H is thus elevated and caused to bear against the under side of the bar X and press the same firmly against the side of the lever D. The bent bar is now removed from the lever and the latter is turned back to its first position, the plate *d'* being folded down to the plate *d* as it strikes the end of the lever E, and assuming its first position on escaping from contact with the said lever.

It will be seen that by the above-described operation the bar is bent to a shape exactly conforming to that of the end of the lever, and that by this means links and straps may be formed much more expeditiously and correctly than by the ordinary method of forging them by hand.

It will be apparent, also, that the form of the lever, its slot, and that of the cam H and the lever I may be varied when it is desirable to

bend bars of metal to a shape different from that shown. I therefore do not desire to confine myself to the precise construction of these parts; but

I claim as my invention and desire to secure by Letters Patent—

The lever D, with its slot *c*, the anvil C, and pin *b*, combined with the levers E F I and the cam H, or their equivalents, so that a bar of metal may be bent to a shape corresponding

with that of the end of the lever, substantially as specified.

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

GEORGE J. NEVEIL.

Witnesses:

CHARLES E. FOSTER,
JOHN WHITE.