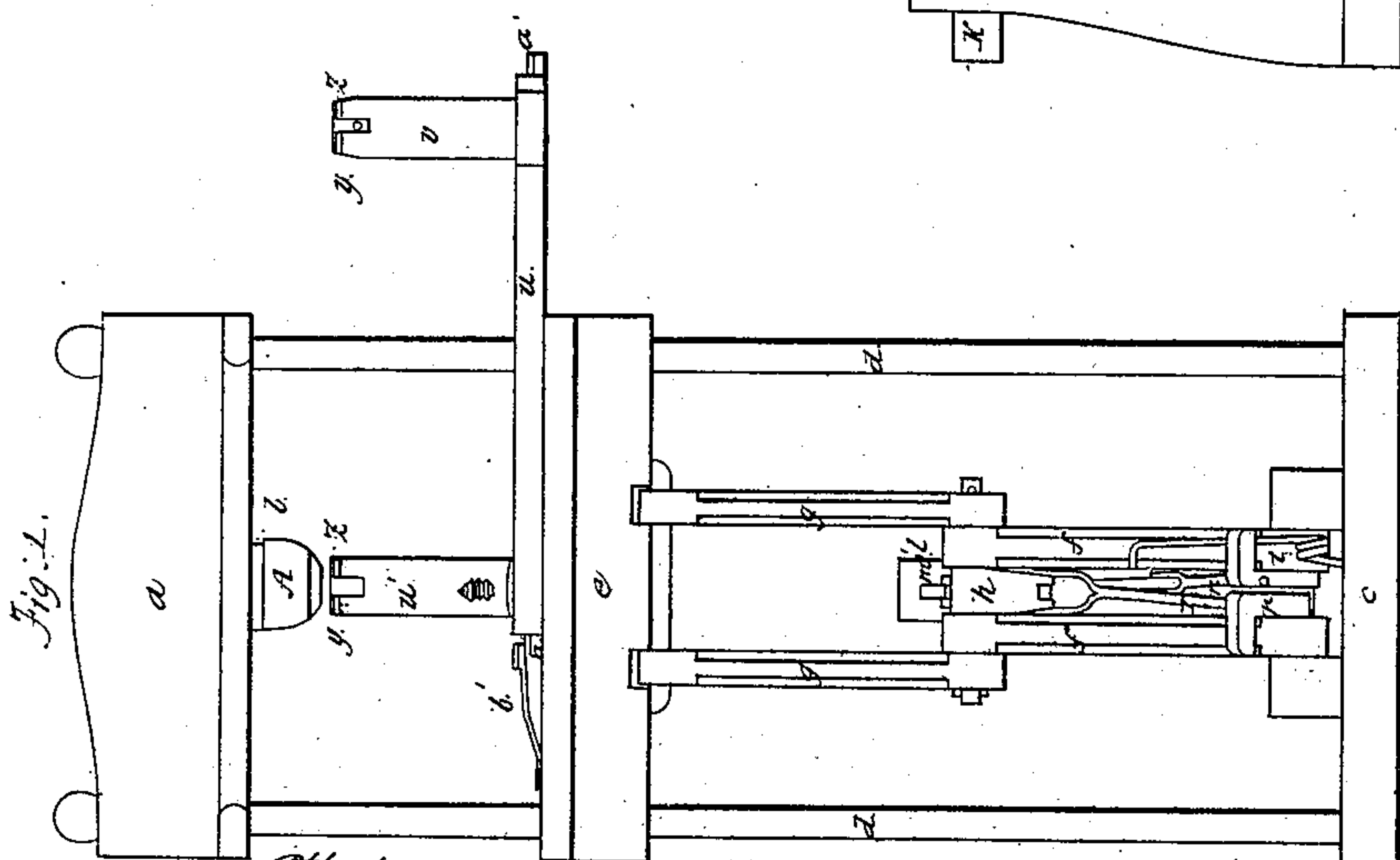
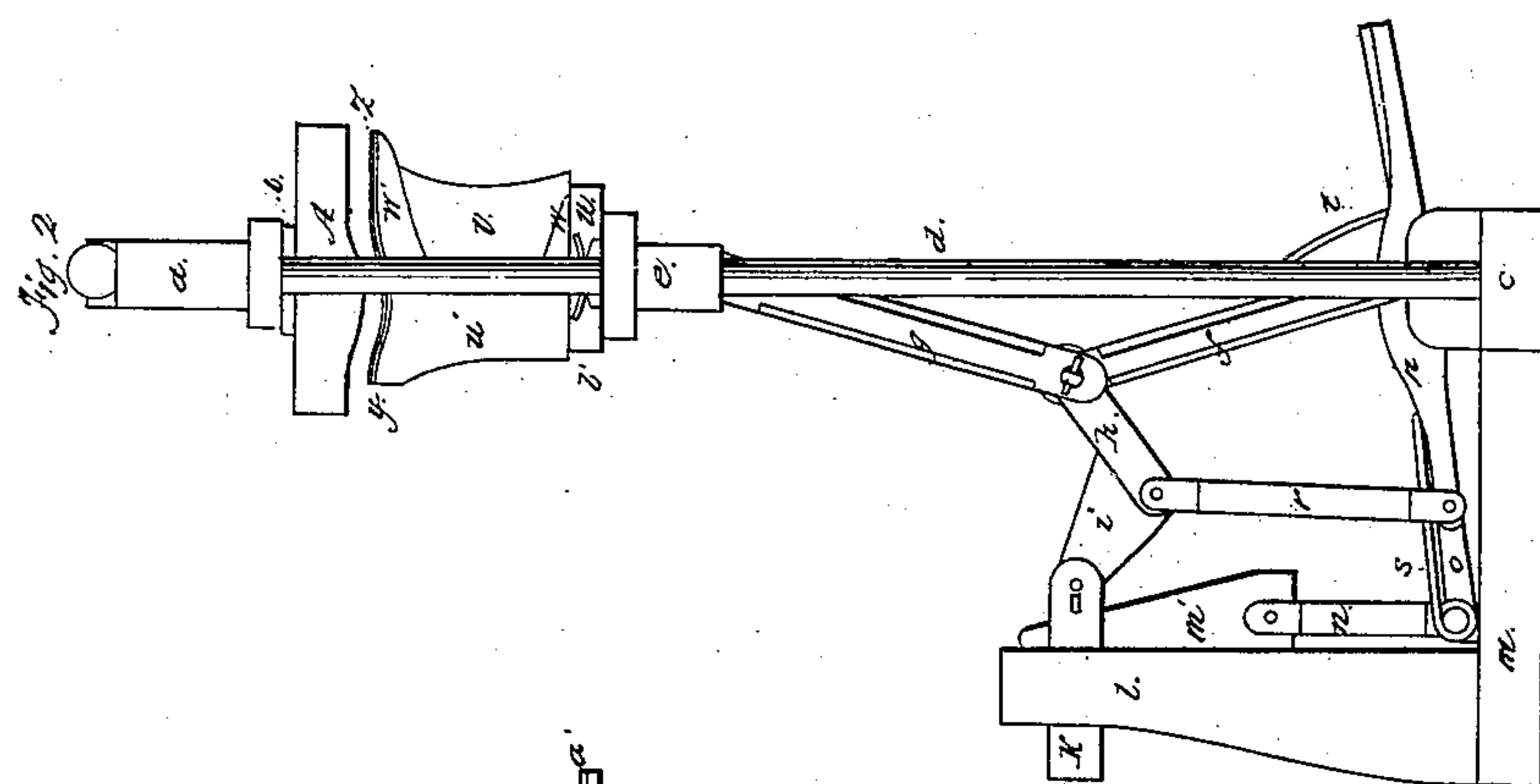
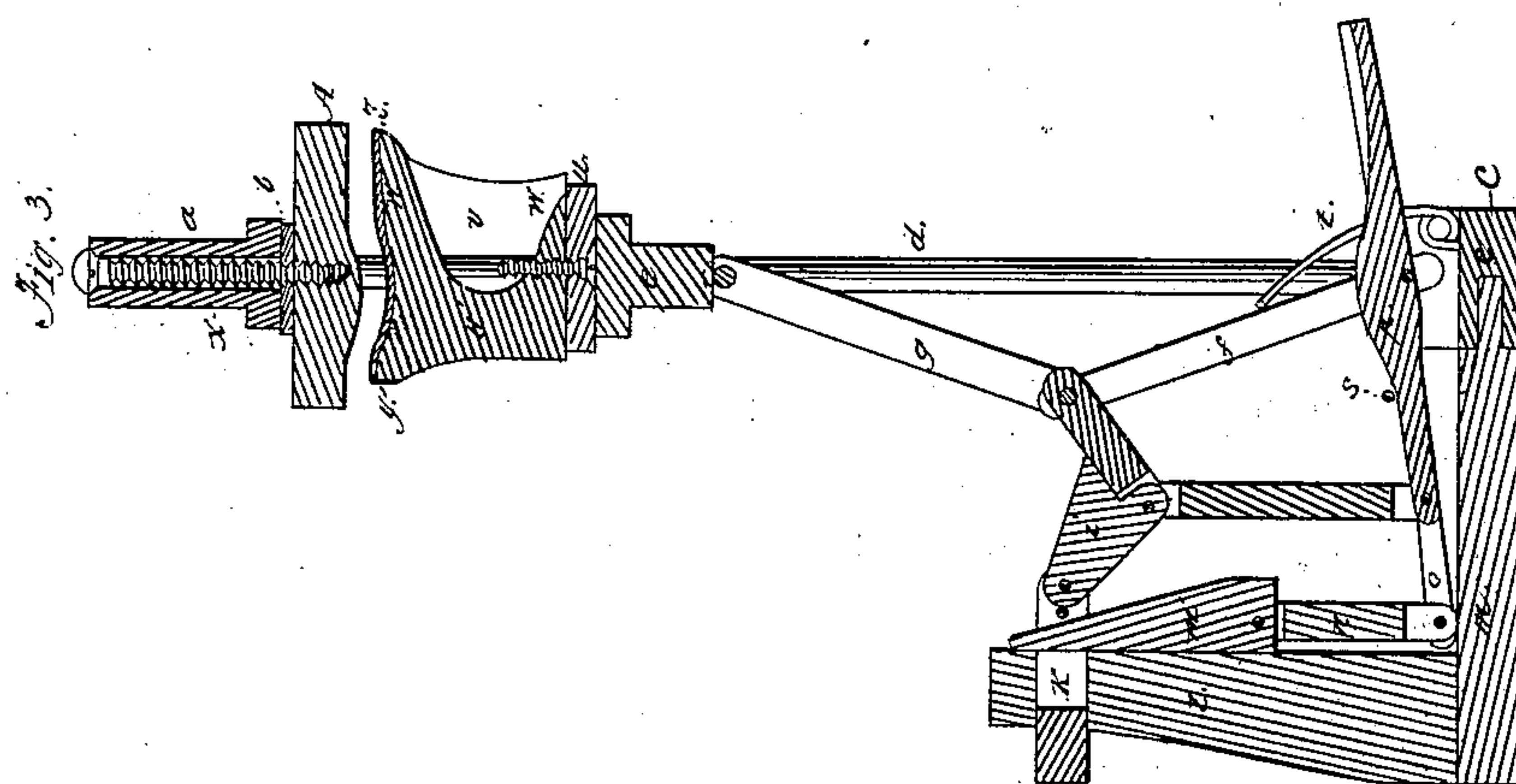


J. B. JOHNSON.  
MACHINE FOR SHAPING THE SOLE OF A SHOE.  
No. 75,428. Patented Mar. 10, 1868.



Attest  
S. N. Piper  
J. R. Snow.

Joseph B. Johnson  
by his attorney  
R. H. Eddy

# United States Patent Office.

JOSEPH B. JOHNSON, OF LYNN, MASSACHUSETTS.

*Letters Patent No. 75,428, dated March 10, 1868.*

## IMPROVED MACHINE FOR SHAPING THE SOLE OF A SHOE.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, JOSEPH B. JOHNSON, of Lynn, in the county of Essex, and State of Massachusetts, have invented a new and useful or improved Machine for Shaping a Sole, particularly after its fixation to the upper of a shoe; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a front elevation,

Figure 2 a side elevation, and

Figure 3 a vertical and transverse section of it.

The present machine may be said to be an improvement with reference to the subject of Letters Patent, No. 71,495, granted November 26, 1867, to me, the main purpose of each of the two machines being the same.

In the drawings, above mentioned, A denotes the sole-mould, which, in this instance, is connected with the upper or arch-bar, *a*, of a press, by a screw, *x*, there being between the bar and the mould a plate, *b*, of vulcanized India rubber, against which the mould bears. The screw goes through a hole in the bar, and such hole is somewhat larger in diameter than the screw. This elastic bearing, with the screw-hole, allows the mould to yield or tip longitudinally or laterally, as may be required, to enable it to conform itself to a sole when pressed against it. The arch-bar *a* is arranged above another or foundation-bar, *c*, and is connected thereto by two parallel and vertical rods *d d*, the whole being arranged as represented. A platen-bar, *e*, extends between the two rods, and is fitted to them, so as to be capable of freely sliding vertically thereon, both toward and away from the arch-bar. This platen-bar is connected with the bottom-bar *c* by a system of toggles, *f f*, *g g*, which, at their central joint, are connected to a pair of auxiliary toggles, *h h*, which are jointed to a bar, *k*. This bar is supported by and slides freely within a vertical post, *l*, extended upward from an arm, *m*, that projects horizontally from the middle of the foundation-bar *c*. A wedge, *m'*, is extended through a vertical slot in the bar *k*, and, by means of a pitman, *n*, is joined to a treadle-lever, *o*, arranged as represented. The auxiliary toggles, at their middle joint, are connected with another such treadle-lever, *p*, by a pitman, *r*. A spring, *s*, fixed to the arm *m*, and having its free end resting on the rear arms of the two treadle-levers, operates to depress either or both of them, as circumstances may require. Another spring, *t*, bearing against the lower of the main toggles, serves to throw such toggles back or out of line with each other. A lever or bar, *u*, so applied at its middle to one of the rods *d d* of the press, as to be capable of being revolved horizontally on such rod, rests on the top of the platen-bar. Upon this lever, and at or near its ends, two lasts, *u' v*, are arranged, each being provided with an extra or auxiliary foot, *w*, to rest upon the lever. This foot projects from the foot of the last and directly underneath the main foot *w'*. Each of the lasts is pivoted to the lever, so as to be capable of being revolved thereon in a horizontal plane about the axis of the connecting-pivot *x*. Furthermore, the sole of each last has a facing of India rubber, over and upon which is a thin metallic plate, *z*, having the form of the sole. From each end of the lever *u* a stud, *a'*, extends. One of such studs goes underneath, and is forced down by a spring, *b'*, when the lever is in its correct position, to bring either of the lasts directly underneath the mould.

The object of the additional last and the revolving bar or lever, combined with the main last, the mould, and press, is to enable an attendant to prepare for being pressed a sole, while another may be in the act of being pressed by the machine, it being usually necessary to allow the shoe under pressure to remain a short period of time subjected thereto. During this time the attendant on the machine can remove from the outer last the shoe whose sole may have been pressed, and can substitute in the place of such shoe another, which, after the one that may be under pressure may have been long enough in the press, may be moved into the press while the other is being moved out of it, such movement being accomplished by simply revolving the bar on the rod through an arc of one hundred and eighty degrees.

The advantage of having each last so applied to the bar as to be capable of being revolved on an axis falling vertically through the last, or extending from it, is that it enables the workman, prior to removal of a shoe from the last, to turn the latter about into the most convenient position for effecting such removal. It is also advantageous in other respects.

The employment of the wedge, the slotted slide, and auxiliary treadle-lever, with the two sets of toggles and their operative pitman and treadle-lever, enables an attendant to regulate, by means of his foot, the amount



of pressure of the toggles, the same being accomplished by moving the wedge vertically to the necessary extent. The addition of the metallic facing-plate to the last is advantageous, as it serves as a protection thereto from wear and indentation, and is useful in other respects.

I would remark, that the auxiliary foot of each last, by being extended directly underneath the main foot on which the shoe is to be placed, is not only for supporting the last on the rotary bar, but is to prevent pressure on the main foot from bending laterally or breaking the axis of the last.

I do not herein claim the subject or subjects of the patent hereinbefore mentioned, but

What I do claim as my present invention, may be stated as follows; that is to say—

I claim the combination of the rotary bar *u*, or the same and the auxiliary last *v* with the main last *u'*, the mould *A*, and the press.

I also claim the application of each last *u v'* to the rotary bar *u*, so as to be capable of being revolved on an axis passing through or extending from the last.

I also claim the application of the mould *A* to the arch-bar of the press, by means substantially as described, or the equivalent thereof, whereby such mould is enabled, under pressure of the sole against it, to adjust itself to the sole.

I also claim the combination and arrangement of the facing-plate *z* with the last and its elastic cushion *y* applied thereto, as represented.

I also claim the combination of the slide-bar *l*, the wedge *m'*, and the auxiliary treadle-lever *o*, with the toggles and their operative pitman and treadle-lever.

I also claim each last, as made with the extra or lower foot, arranged with the main foot, and being for the purposes as set forth.

JOSEPH B. JOHNSON.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.