

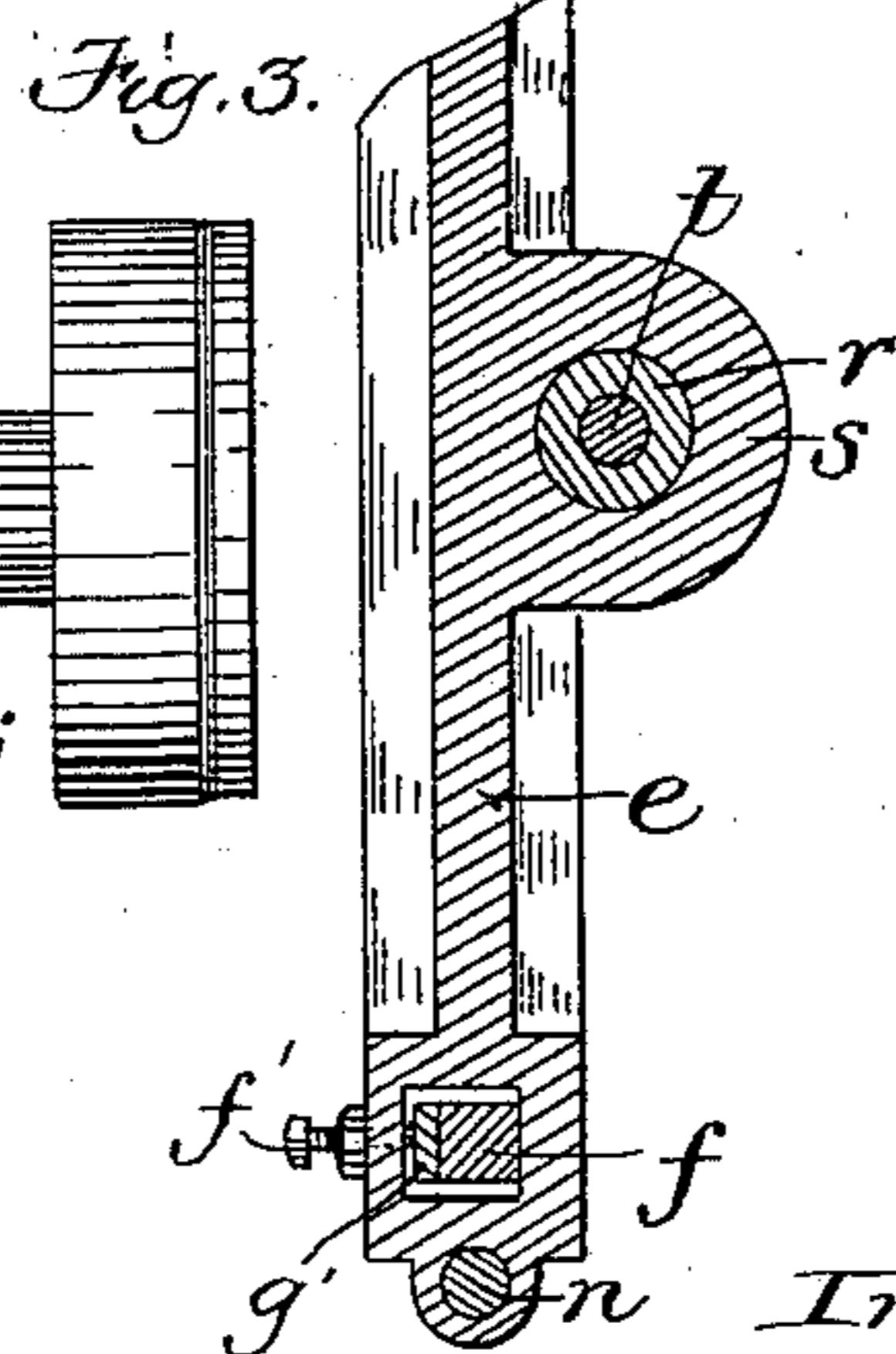
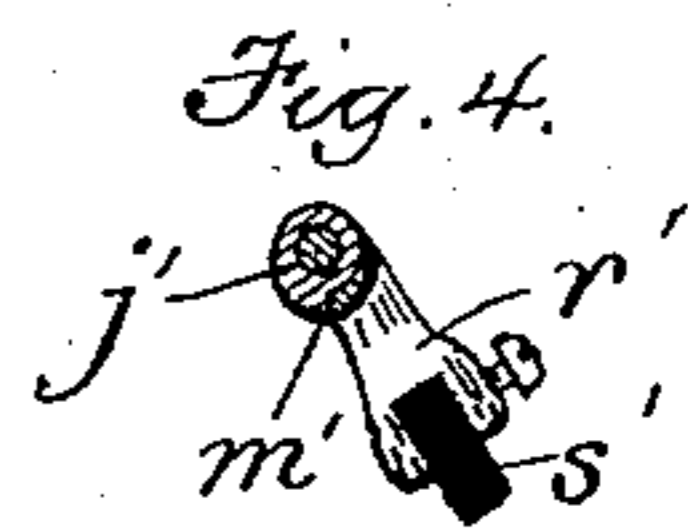
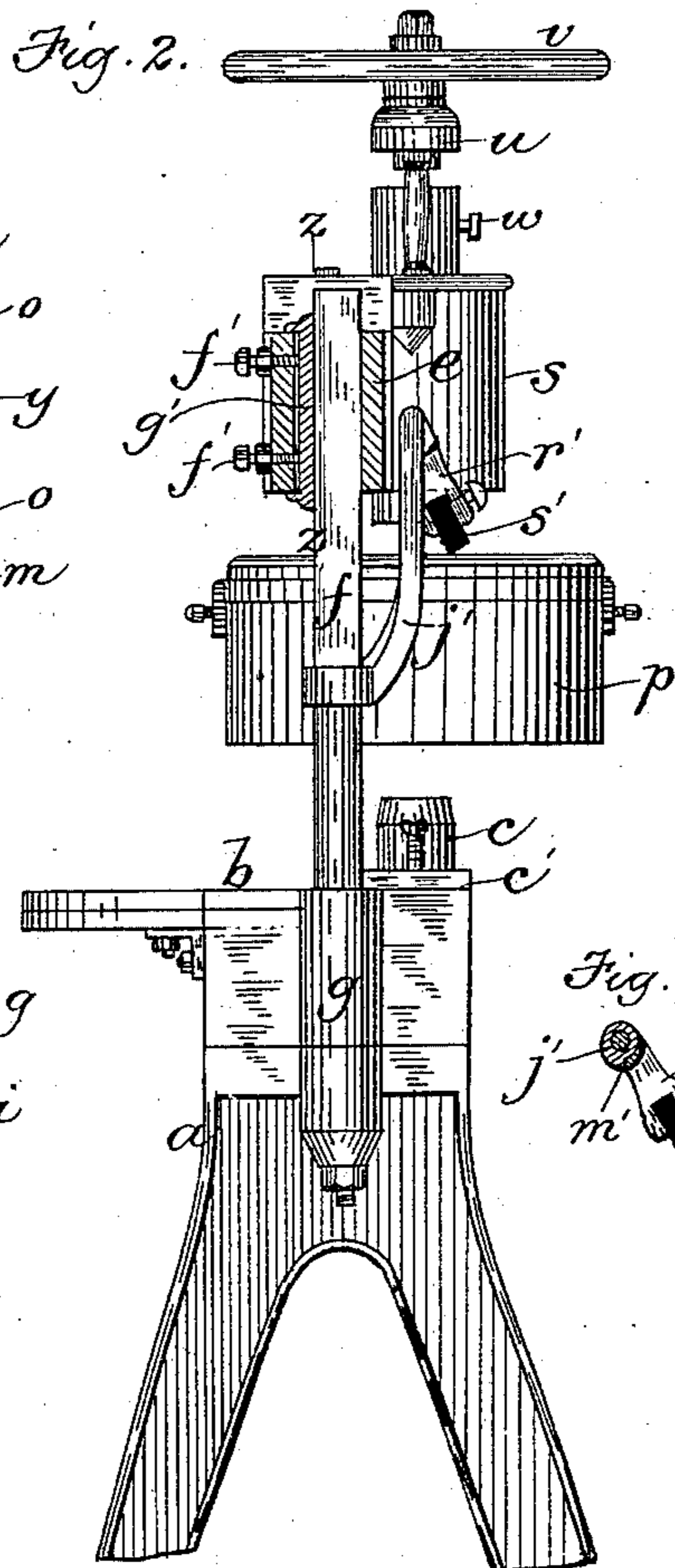
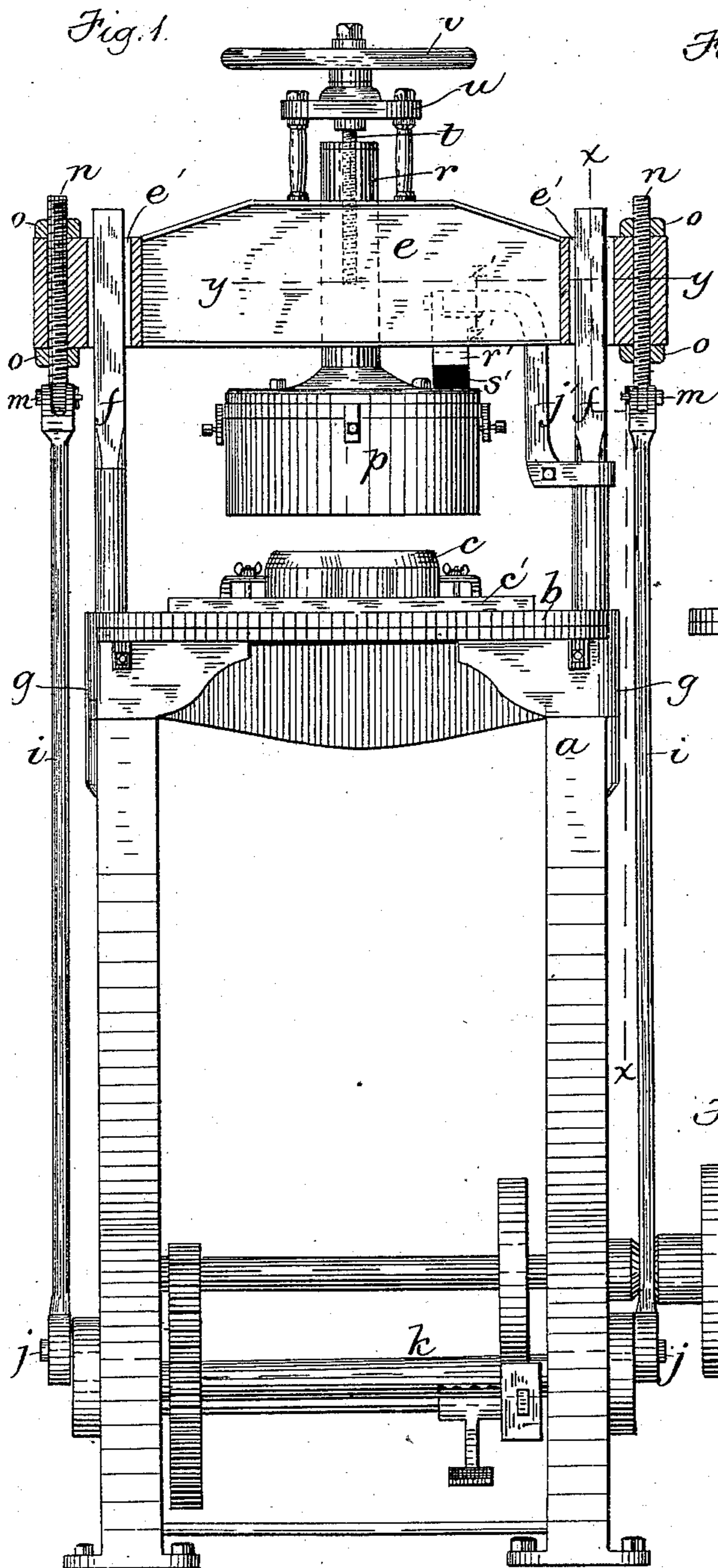
(No Model.)

D. KNOX.

LEATHER CUTTING MACHINE.

No. 312,643.

Patented Feb. 24, 1885.



Witnesses.
H. Brown
R. J. Powers

Inventor.
David Knox
by Hight H. Brown
Attys.

UNITED STATES PATENT OFFICE.

DAVID KNOX, OF LYNN, MASSACHUSETTS.

LEATHER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 312,643, dated February 24, 1885.

Application filed December 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, DAVID KNOX, of Lynn, in the county of Essex and State of Massachusetts, have invented certain Improvements in Leather-Cutting Machines, of which the following is a specification.

This invention relates to machines for cutting out leather by means of a cutting-die, the die being supported by a bed or table while the leather is pressed against the die by a platen or plunger, which is supported by a cross-head reciprocated vertically over the die.

The invention consists in the means employed for adjusting the cross-head to enable the platen to conform to the cutting-die, and also in the means employed for partly rotating the platen after each depression thereof, so that different parts of its surface will be presented to the die at each operation, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of my improved machine, a part thereof being a section on line *zz*, Fig. 2. Fig. 2 represents a section on line *xx*, Fig. 1. Fig. 3 represents a section on line *yy*, Fig. 1. Fig. 4 represents a section on line *zz*, Fig. 1.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the supporting-frame having a bed, *b*, on which rests a cutting-die, *c*, which in the present instance is formed to cut out a sole from a piece of leather, and is secured to a block, *c'*, which is secured to the bed *b*.

e represents a cross-head, which is capable of sliding on two vertical standards, *f f*, rigidly attached to bosses *g g* on the frame *a*. The cross-head is connected by rods *i i* with eccentric wrist-pins *j j* on disks affixed to a shaft, *k*, which is rotated by any suitable power, and reciprocates the cross-head vertically. The rods *i i* are pivoted at *m m* to bolts *n n*, which are adjustable in the ends of the cross-head, and are secured wherever they are adjusted by nuts *o o*.

p represents the platen, which is made of wood or other material which will not injure the cutting-die. The platen is attached to a cylindrical stud, *r*, which is journaled in a socket, *s*, on the cross-head, and is supported

by a screw, *t*, which is swiveled in a yoke or frame, *u*, attached to the cross-head, and is provided with a hand-wheel, *v*. The screw *t* enters a tapped socket in the stud *r*, and when it is rotated and the platen is held from rotating, the platen is raised or lowered, as the case may be. When the platen is rotated, the screw rotates with it, no adjustment of the platen being effected. I prefer to use a set-screw, *w*, to secure the stud *r* to the screw *t*, to cause the two to rotate together. The depression of the cross-head causes the platen to bear upon the die, a piece of leather placed upon the die being thus cut. The cross-head *e* is provided with slots or sockets *e' e'*, which receive the standards *f f*. The sockets are wider than the standards in the direction of the length of the cross-head, as shown in Figs. 1 and 3, so that the cross-head can be inclined lengthwise more or less, the screw-rods *n* and their nuts *o o* enabling the cross-head to be raised or lowered at either end. The surface of the platen may thus be adjusted to the cutting-edge of the die, so that in case said edge is not exactly horizontal, but is lower at one end than at the other, the bed can be correspondingly inclined. The cross-head is prevented from moving sidewise on the standards *f f* by plates *g' g'*, which are pressed by set-screws *f' f'* against the standards in the sockets *e'*, and compensate for wear on the standards and sides of the sockets.

j' represents an arm secured to one of the standards *f*, and projects over the platen. To the arm *j'* is pivoted a dog, *r'*, having at its lower end a tip, *s'*, of rubber or other yielding material. When the platen is depressed, the dog drops as far as it is permitted by a stop, *m'*, on the arm *j'*, which does not allow the dog to hang directly downward, but keeps it inclined in the direction shown in Fig. 2. When the platen rises, its upper surface strikes the end of the rubber block at the lower end of the dog. The friction of the rubber on the platen causes the dog in being displaced by the upward movement of the platen to partially rotate the platen, so that at its next descent it will present a different part of its surface to the die, and thus wear evenly. The arm *j'* is adjustable on the standard *f*, to which it is attached, so that the dog may be so lo-

cated as to receive any desired degree of displacement from the platen, and therefore impart any desired degree of rotary movement to the platen. The portions of the standards on which the cross-head slides are square or equivalently formed in cross-section.

I claim—

1. The combination of the bed or support *b* for the cutting-die, the standards *f f*, square or equivalently formed, the cross-head having the platen *p*, and the sockets *e' e'*, wider than the standards, the plates *g'* and their adjusting-screws, whereby lateral movement of the cross-head is prevented and wear is compensated for, the adjustable bolts *n n* in the ends of the cross-head, the connecting-rods pivoted to said bolts, and means, substantially as described, whereby said rods are supported and reciprocated, as set forth.

2. The combination of the bed or support for the cutting-die, the fixed guiding-stand-

ards, the cross-head adapted to slide on the standards and adjustable thereon, as described, the dog *r'*, pivoted to a fixed support over the platen, and provided with a frictional or yielding end, and mechanism, substantially as described, for reciprocating the platen, as set forth.

3. The combination, with the adjustable cross-head having the rotary platen, the guiding-standards, the arm *j'*, adjustably secured to one of the standards, and the dog *r'*, pivoted to said arm over the platen, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 10th day of December, 1884.

DAVID KNOX.

Witnesses:

C. F. BROWN,

H. BROWN.