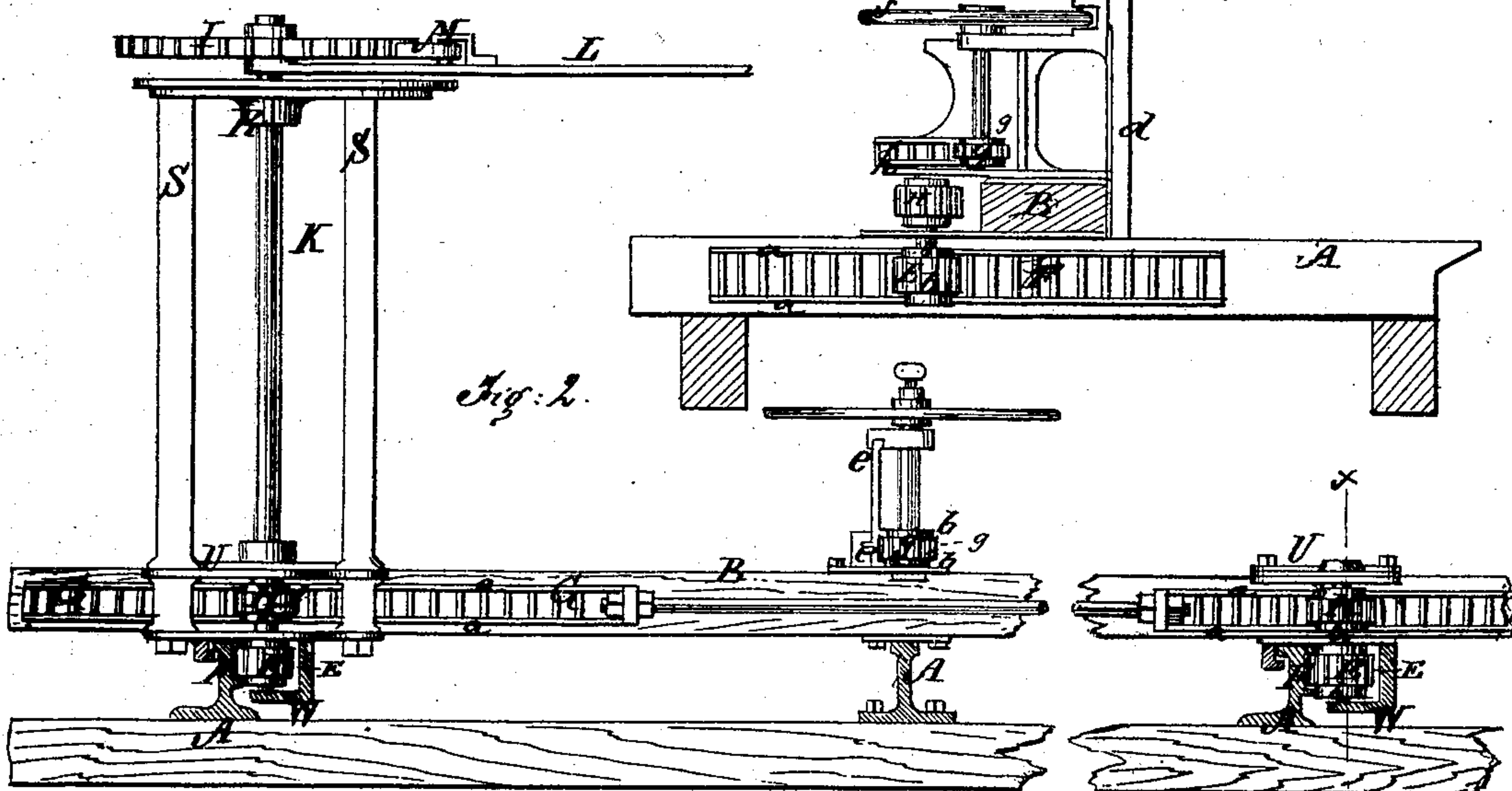
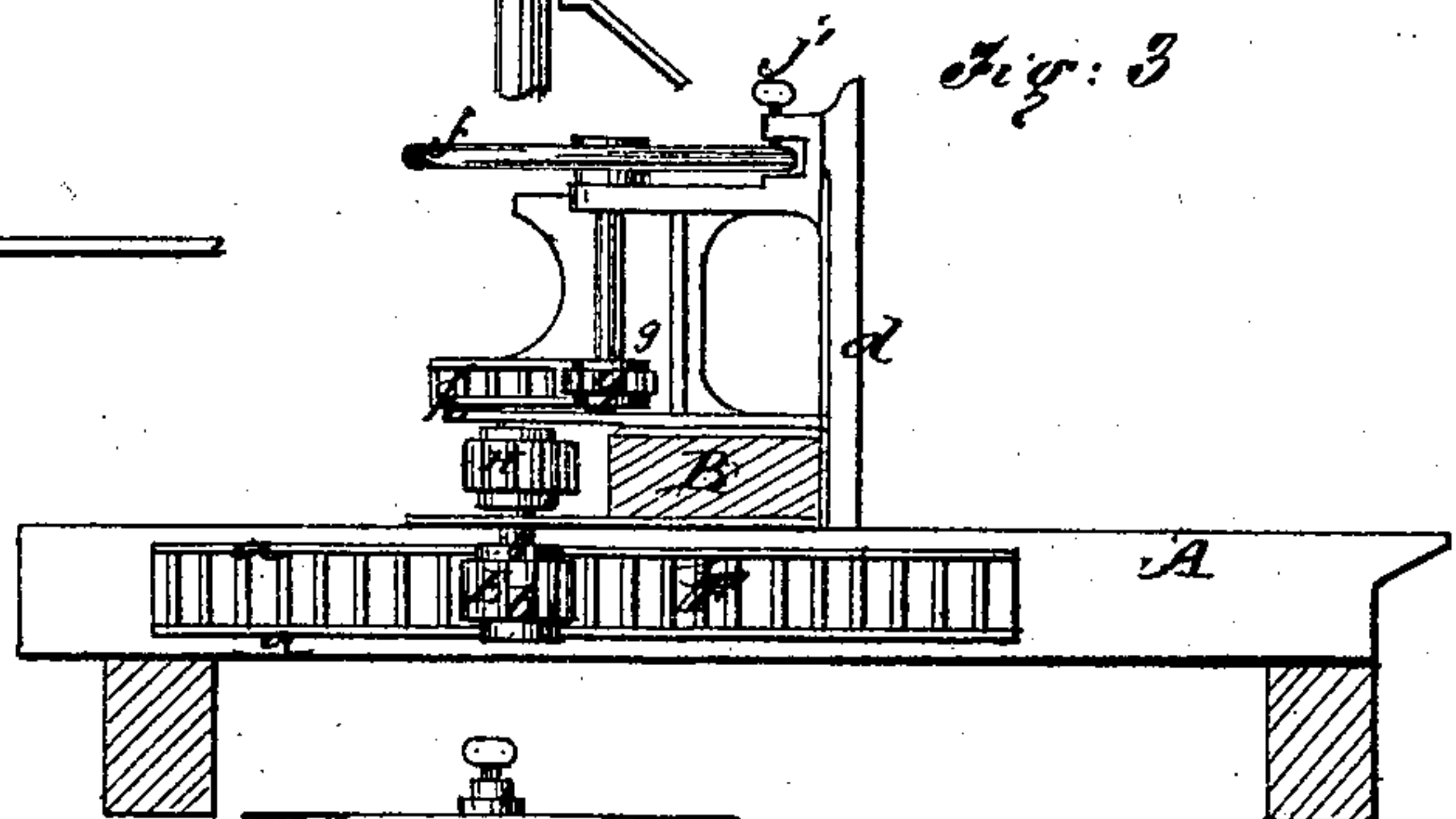
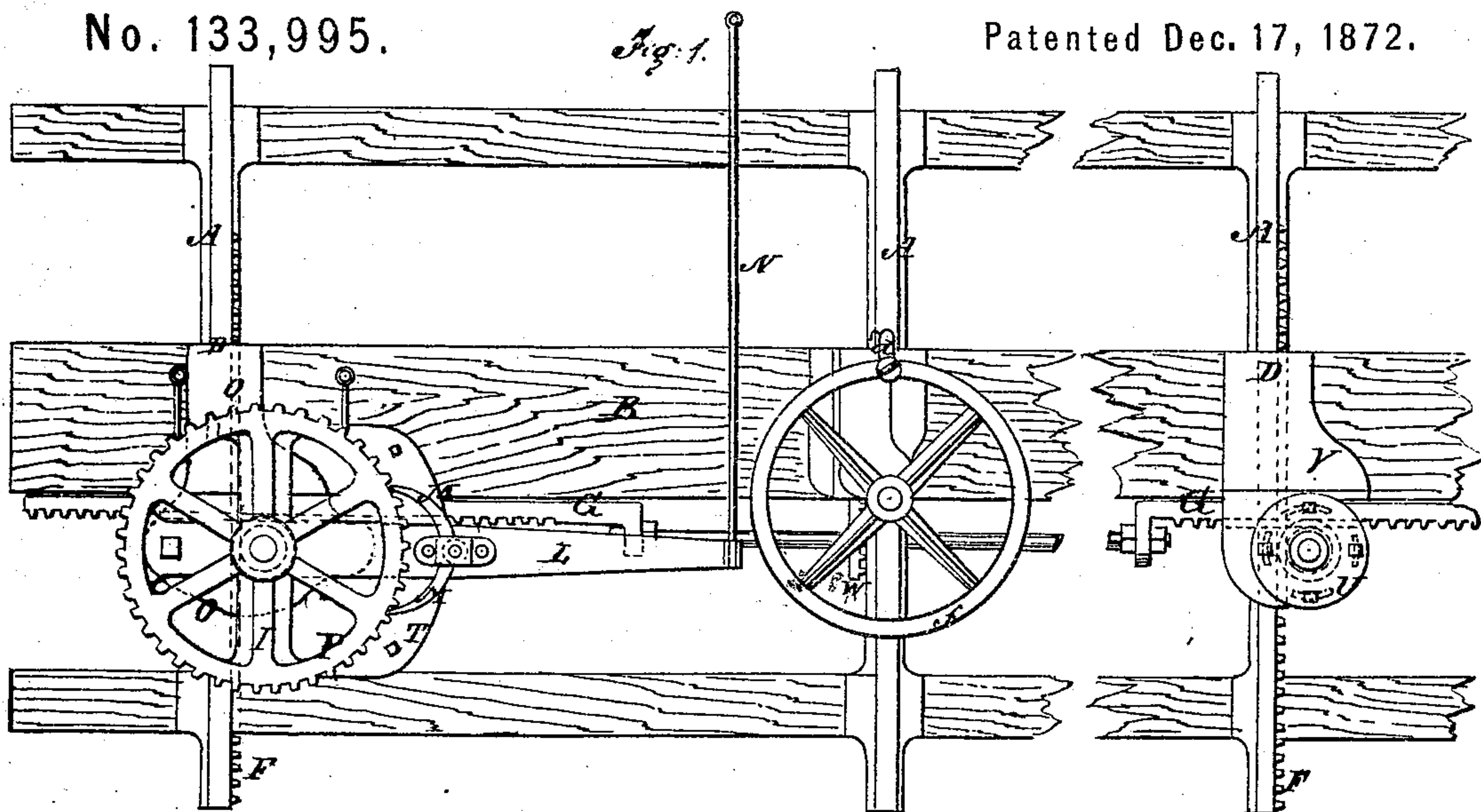


C. LEDDEL.
Head-Blocks for Saw-Mills.

No. 133,995.

Patented Dec. 17, 1872.



Witnesses:

Chas. Nida.
H. A. Graham.

Inventor:

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Fig. 5

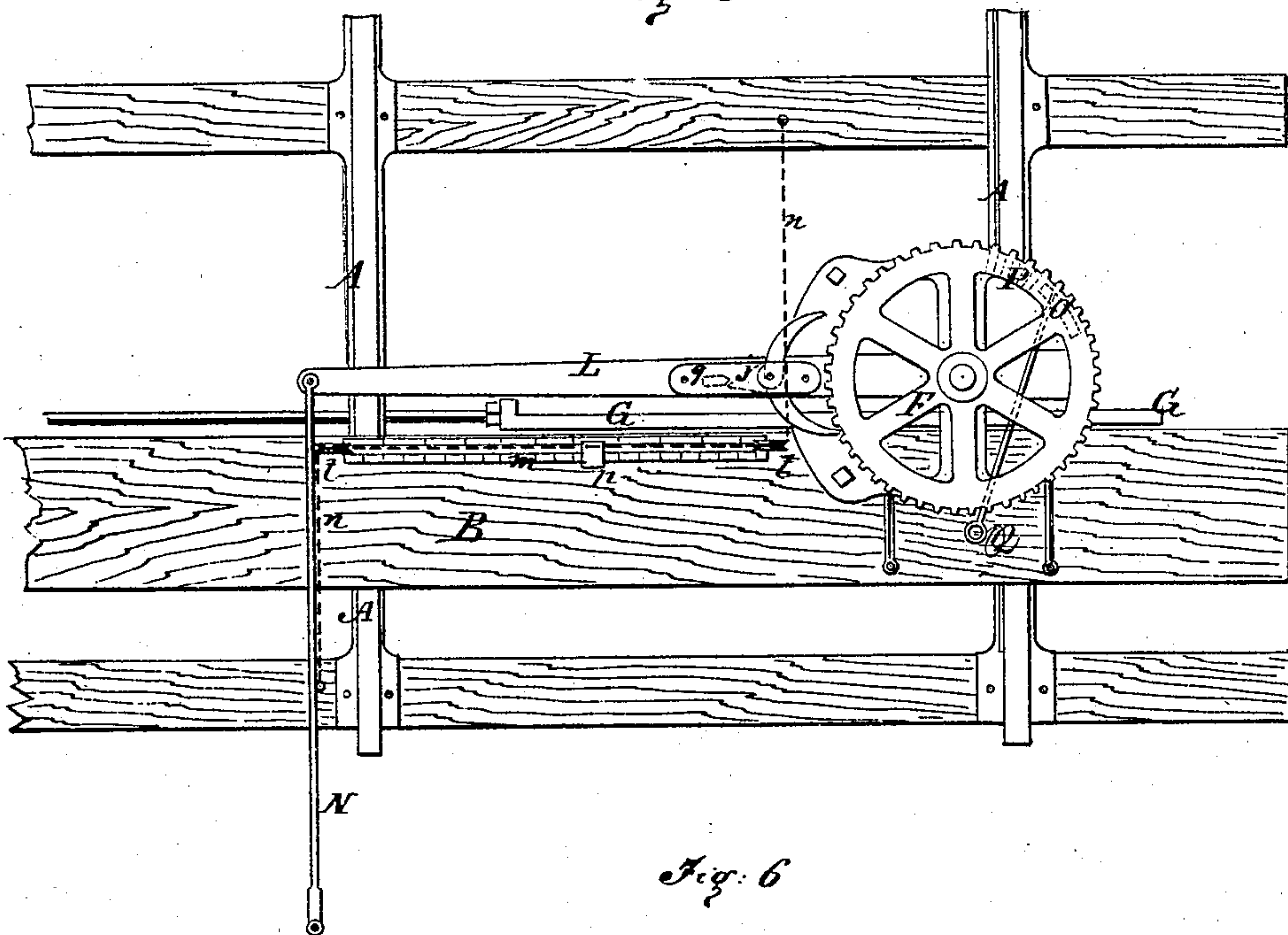
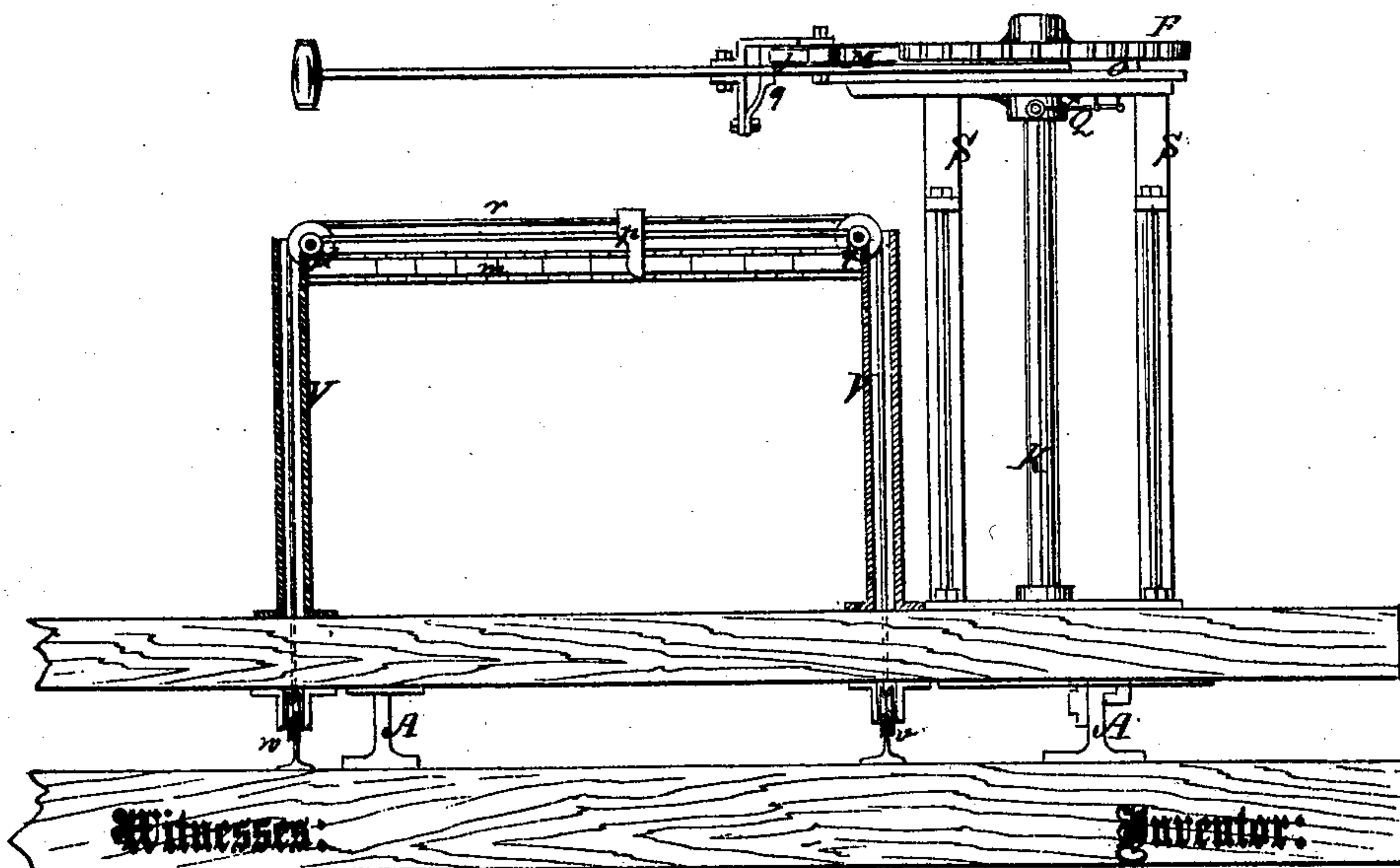


Fig. 6



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UNITED STATES PATENT OFFICE.

CHARLES LEDDEL, OF MORRISTOWN, NEW JERSEY.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **133,995**, dated December 17, 1872.

To all whom it may concern:

Be it known that I, CHARLES LEDDEL, of Morristown, in the county of Morris and State of New Jersey, have invented a new and useful Improvement in Head-Blocks for Saw-Mills, of which the following is a specification:

In my improved log-setting apparatus there is a long toothed rack on the back side of the log-beam parallel with it and movable in the direction of its length which gears at each head-block with a pinion on a shaft having a pinion gearing with a toothed rack on the head-block, so that by the movement of the said long toothed rack the log-beam will be moved forward or back alike on all the head-blocks, and the pinion-shaft at the head of the carriage rises as high or higher than the height of the largest logs, and has a ratchet-wheel on its upper end, with which wheel is a pawl-lever, double-acting pawl, a push-and-pull bar for actuating the lever from the sawyer's position in front of the saw, and a holding-pawl to prevent the back pressure of the log from turning the ratchet-wheel, all being arranged so that the aforesaid wheel may be worked by the sawyer in the aforesaid position to set the log and shift the log-beam back for a new log. The invention also comprises a knee for setting out the log to saw tapering stuff, worked by a hand-wheel, pinion, and rack, independent of the aforesaid apparatus, which is for setting the log to be sawed into stuff with parallel sides. The invention also comprises a novel arrangement of a scale and movable pointer to show the distance of the dogs from the saw and guide the operator in setting the log.

Figure 1 is a plan view of a log-carriage with my improved log-setting apparatus; Fig. 2 is a side elevation; Fig. 3 is a cross-section on the line *x x* of Fig. 2; and Fig. 4 is a side elevation of the ratchet-wheel and pawl-lever; Fig. 5 is a plan view, showing a modified arrangement of the pawls and ratchet-wheel, also the application of the scale; and Fig. 6 is a front elevation of Fig. 5.

Similar letters of reference indicate corresponding parts.

A represents the head-blocks, and B the log-beam of the carriage. Said log-beam is to be provided with the usual knees at D and the dogs for holding the log, and it slides forward and back on the head-blocks, being provided

with pinions E, gearing with the racks F of said head-blocks, and these pinions, except one, are turned by the long toothed rack G, extending from one to the other of the head-blocks and gearing with the shafts of said pinions E by pinions H H'. This toothed rack is actuated by pinion H' and turns the pinions H and E the same as said pinion H' is turned, and this latter is turned by the ratchet-wheel I on the top of the long vertical shaft K, which is turned by the pawl-lever L, pawls M, and rod N, the latter extending from the free end of the sawyer-lever to the front of the saw. O is a weighted pawl, which engages with the under-side rim P of ratchet-teeth of wheel I to prevent it from being turned backward by the pressure of the log on the log-beam, which is sometimes very great, particularly when a presser-roller is used on the opposite side of the log to prevent it from springing. The weighted pawl is lifted out of the said ratchet-teeth when the log-beam is to be moved back by lifting the handle Q upon a pin to the left or right. The weight keeps said pawl in connection with the ratchet-wheel when the pawl is shifted off the pin. I prefer to have the pawls pivoted to the block *j*, which may, at its pointed end, be shifted to either side of the spring-stud *q* for shifting one pawl into gear and the other out. The shaft K is supported at the upper end on the bearing R supported on the tops of the posts, and above this bearing R is a plate, T, for the pawl-lever to work on. Above the pinion H' said shaft is arranged in a bearing-plate, U, which is bolted to plate V so as to be shifted out or in to bring the pitch-line of pinion H' and that of the rack G to coincide. The lower bearing W is made to correspond with bearing U. The shafts of pinion H are supported in like manner by plates V and bearings W. The racks are provided with flanges *a* and the pinions with knees or shoulders *b* corresponding to the pitch-lines, which are caused to bear against each other and prevent the teeth from sinking too deep. They also facilitate the setting of the pinion with the racks. For setting the log out to saw tapering stuff I have a knee, *d*, on one of the head-blocks independent of the rack G, and arranged to slide back and forth on the log-beam, as shown at *e*, and provided with a hand-wheel, *f*, pinion *g*, and rack *h* for

moving it in or out. This knee is secured after being adjusted by the set-screw j' acting upon the hand-wheel, as shown. m is a scale, supported above the log-beam by posts V' , and p is a pointer, fixed to slide along it and connected to the cord r , working over pulleys v , and connected to opposite sides of the carriage, as shown, so that the moving of the log-beam causes the pointer to move along the scale the same amount that said log-beam and the knees attached to it do. This scale fronts the sawyer, so that it is more convenient for him to note its indications than when otherwise arranged.

I propose to have the posts V made of gas-tube, and have the cord r pass up and down in them to be protected. The said tube will have brackets w , as shown, at the upper ends to support the pulleys t and the scale-beam.

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

1. The middle head-block provided with hand-wheel, as described, so that in connection with the hand-lever the attendant can operate all said blocks simultaneously.

2. The scale and supports formed of tubes, the pointer, and cord, arranged with carriage, as and for the purpose described.

3. The combination of the adjustable bearing-plates U with the pinions $H H'$, the shafts, and plates V , and toothed bar G , all substantially as specified.

CHARLES LEDDEL.

Witnesses:

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