

(No Model.)

C. E. GRANDY.
WOOD SPLITTING MACHINE.

No. 246,122.

Patented Aug. 23, 1881.

Fig: 1.

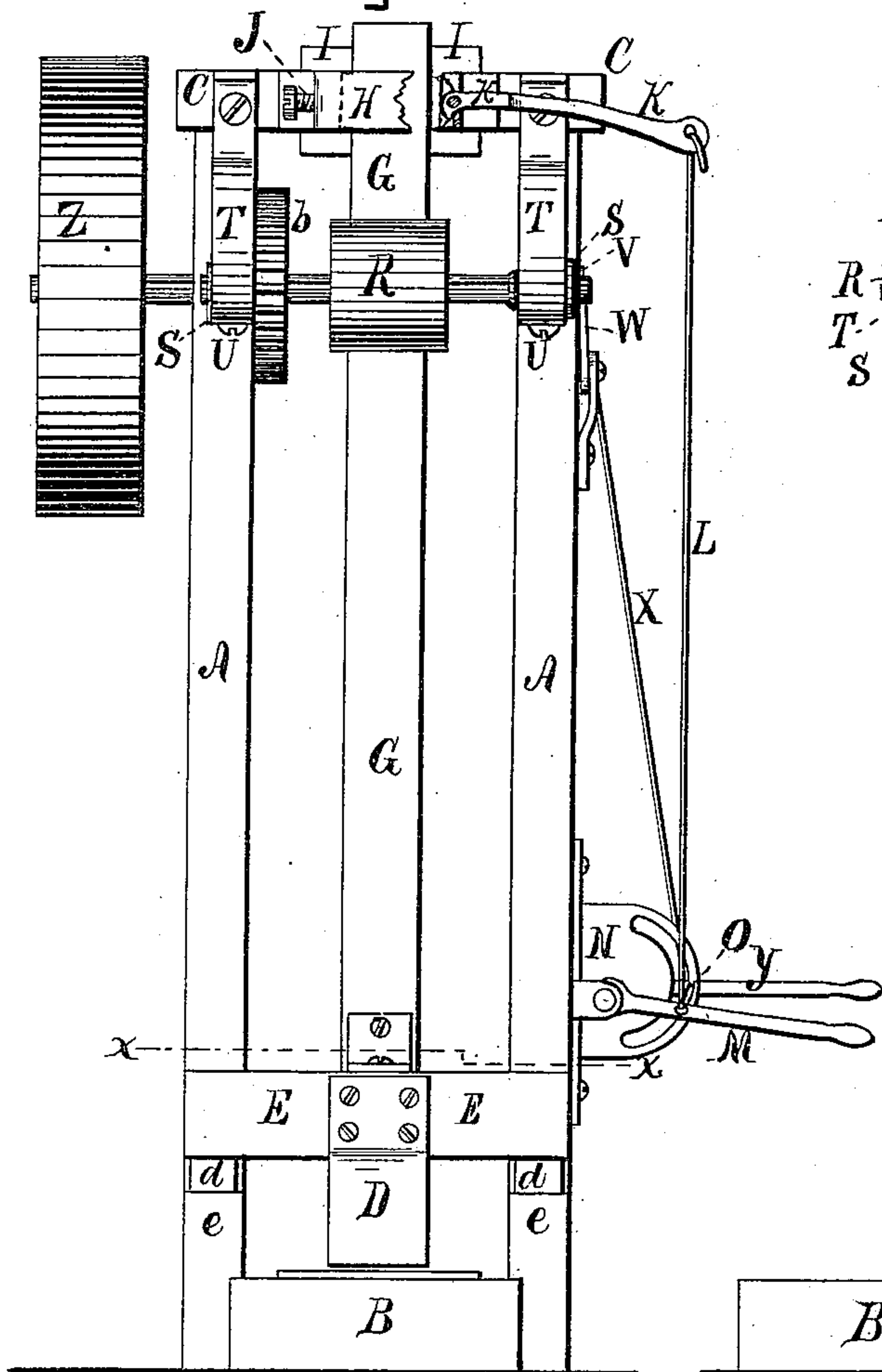


Fig: 2.

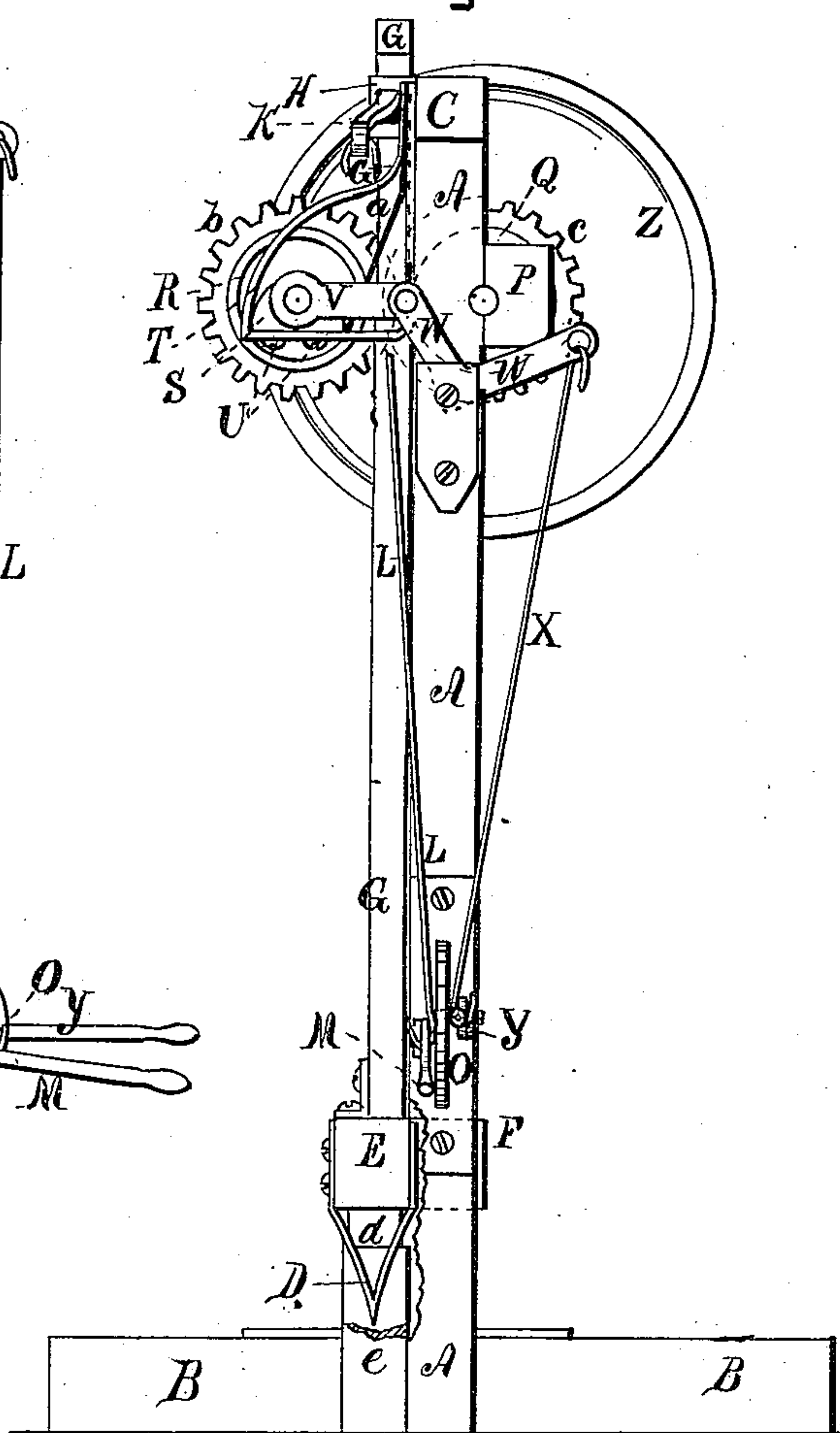


Fig: 4.

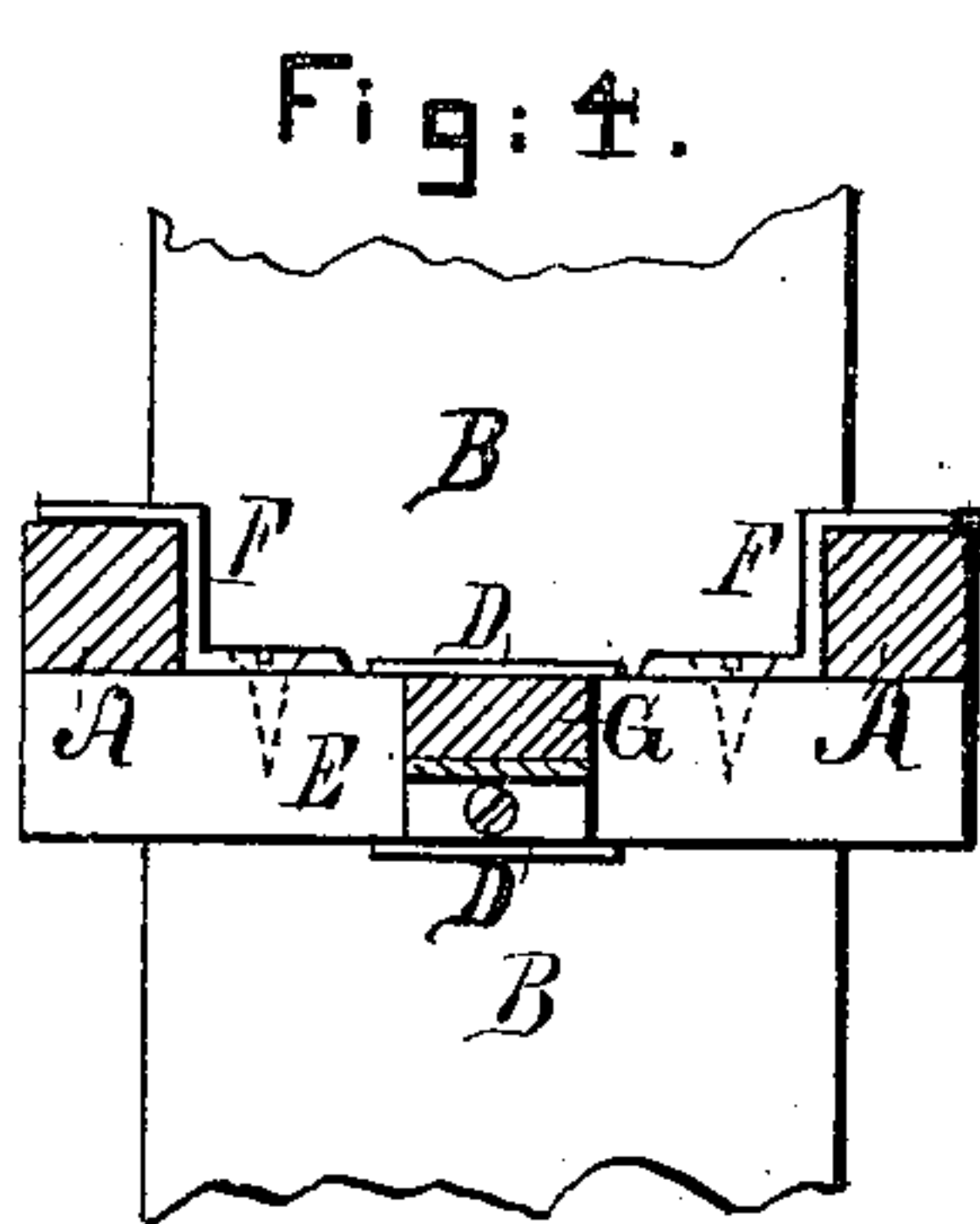
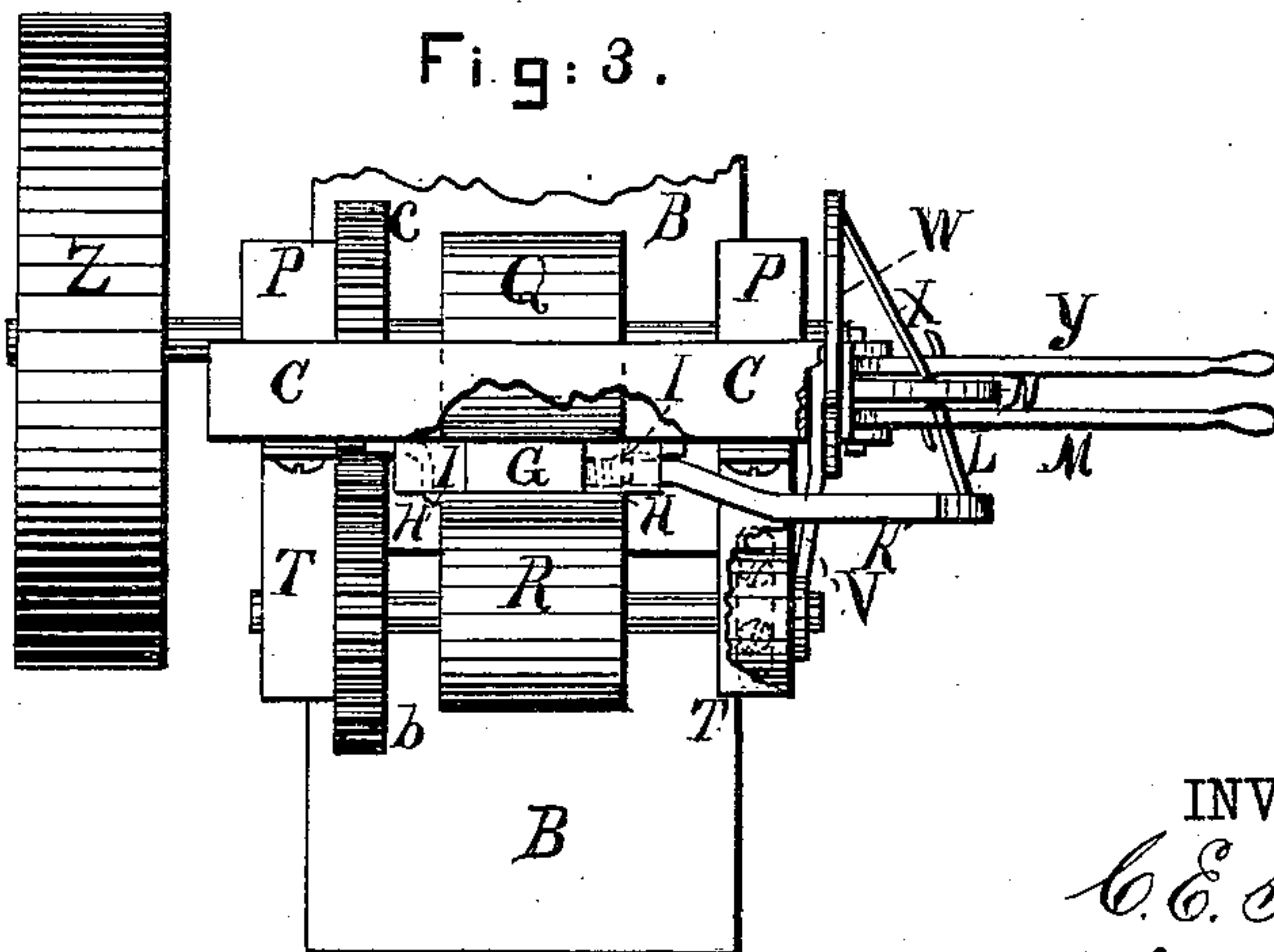


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CYRUS E. GRANDY, OF SOUTH BARTON, ASSIGNOR OF ONE-HALF TO
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WOOD-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,122, dated August 23, 1881.

Application filed December 16, 1880. (No model.)

To all whom it may concern:

Be it known that I, CYRUS E. GRANDY, of South Barton, in the county of Orleans and State of Vermont, have invented a new and
5 useful Improvement in Wood-Splitting Machines, of which the following is a specification.

Figure 1 is a front elevation of the improvement. Fig. 2 is a side elevation. Fig. 3 is a plan view. Fig. 4 is a horizontal section of
10 Fig. 1 through the line *xx*.

The object of this invention is to furnish machines for splitting wood for fuel and other purposes, by the use of which wood can be split more rapidly and effectively than when the ordinary means are employed.
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Similar letters of reference indicate corresponding parts.

A are two upright bars, which serve as a frame to support the operating mechanism and as ways for the knife-carrier to slide up and down upon. Between the lower ends of the bars A is placed a block, B, of wood or other suitable material, to receive the wood to be split. The upper ends of the upright bars A are connected by a cross-bar, C, to keep them in proper relative positions.
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D is a wedge-shaped knife, the sides of which are concaved to allow the forward part of the knife to be made thinner without lessening the thickness of the rear part. The rear end of the knife D is slotted, forked, or split to receive the middle part of a cross-head, E, and is secured to the said cross-head by bolts or rivets; or the knife D can be secured to the cross-head E in any other suitable manner. The ends of the cross-head E slide up and down along the forward sides of the upright bars A, and are held in place by keepers F, attached to the cross-head E and extending across the rear sides of the said upright bars A, as shown in Fig. 4.
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To the center of the cross-head E is attached the lower end of a bar, G, which passes up the forward side of the cross-bar C, and is kept in place by a keeper, H, attached to the forward side of the said cross-bar C. The keeper H is made longer than the width of the bar G, and has friction-blocks I inserted in its end parts, to bear against the edges of the said bar G and serve as a brake.
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J is a set-screw, which passes through the end of the keeper H, and rests against the outer edge of the brake-block I, so that the said brake-block can be moved forward to take up the wear. The outer edge of the other brake-block I is recessed to receive the cam formed upon the inner end of the lever K, which passes in through an aperture in the end of the keeper H, and is pivoted to and between the said keeper H and the cross-bar C. With this construction, by operating the cam-lever K, the bar G can be stopped and held at any desired point, and can be instantly released.
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To the outer end of the cam-lever K is pivoted the upper end of a connecting-rod, L, the lower end of which is pivoted to a lever, M. The inner end of the lever M is pivoted to a support attached to the lower part of the outer side of the bar A, so that it can be readily reached and operated by an attendant. The lever M moves along a semicircular plate, N, attached to the bar A, which plate N has a curved slot formed in its outer part to receive the catch O. The catch O is designed to receive and hold the lever M when locking the bar G in place, and can be adjusted in the plate N as the wear of the brake-blocks I may require.
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In bearings P, attached to the rear side of the upper parts of the upright bars A, revolve the journals of a roller, Q, the face of which rests against the rear side of the upright bar G of the knife-carrier.
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Against the forward side of the upright bar G rests the face of a roller, R, the journals of which revolve in bearings S, supported by brackets T, attached to the forward side of the upright bars or frame A. The bearings S are secured to the brackets T by screws U, and one of the said brackets is slotted to receive the fastening-screws U, so that the roller R can have a slight lateral movement to allow it to be pressed against the bar G to clamp the said bar G between the rollers Q R, so that the knife-carrier G E and knife D can be raised by the revolution of the said friction-rollers Q R, and can be allowed to drop to make a cut by moving the roller R back from the said bar G.
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Upon the end of the journal of the roller R is placed the eye of the connecting-bar V, the

other end of which is pivoted to an arm of the bent lever W. The bent lever W is pivoted at its angle to the upright bar A, and to its other arm is pivoted the upper end of a connecting-rod, X, the lower end of which is pivoted to the lever Y. The end of the lever Y is pivoted to the upright bar A in such a position that the two levers M Y will be close together, and can thus be conveniently operated by the attendant.

To the end of the journal of the rear roller, Q, is attached a pulley, Z, to receive a driving-belt from any convenient power.

The roller R is forced and held out of contact with the bar G by a spring, *a*, attached to the bracket T, and which rests against the inner end of the sliding bearings S, as shown in Fig. 2. To the journals of the rollers Q R are attached gear-wheels *b c*, the teeth of which mesh into each other, so that the roller R will be driven from the roller Q, and both rollers will be driven at the same speed.

The knife D is kept from striking the cutter-block B by rubber, spiral, or other suitable springs *d*, placed upon short posts *e* or other supports attached to the side bars, A, for the ends of the cross-head E of the knife-carrier to strike against.

In using the machine an attendant operates

the lever Y to press the roller R against the bar G and cause the rollers R Q to raise the knife-carrier E G and the knife D, which knife-carrier and knife can be stopped at any desired point by operating the lever M and releasing the lever Y. When the stick to be split has been placed upon the block B in proper position the lever M is released and the knife D and knife-carrier E G are allowed to drop by their own weight, the knife D striking the stick and splitting it.

I am aware that the combination of a board and drop with a pair of rolls, each of which is separately operated by power applied to pulleys, is not new; also, that a drop-lifter has been combined with an eccentrically-pivoted brake, having arm, spring, lever, and cord; but

What I claim as new and of my invention is—

The combination of the lever Y, rod X, bent lever W, connecting-bar V, brackets T, one of which is slotted to receive screws U, the bearings P S, the roller R, held from bar G by spring *a*, and the roller Q, resting against bar G, as and for the purpose specified.

CYRUS ELBRIDGE GRANDY.

Witnesses:

GROVNER ISAAC DROWN,
ROMANZE FRANKLIN WINCHESTER.