

Sheet 1, 2 Sheets.

J. East.

Dressing Millstones.

Nº 93,867.

Patented Aug 17, 1869.

Fig: 1.

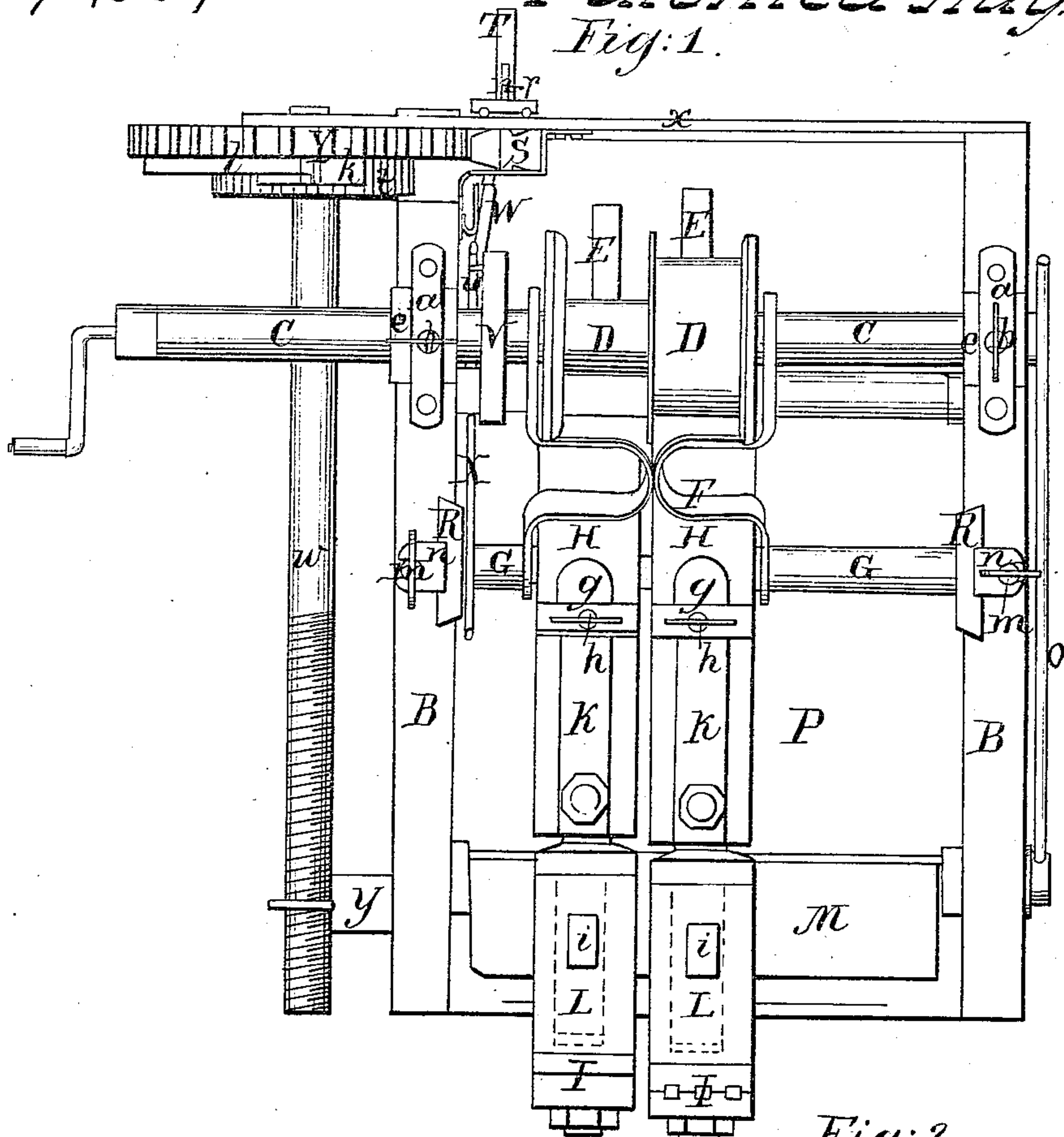
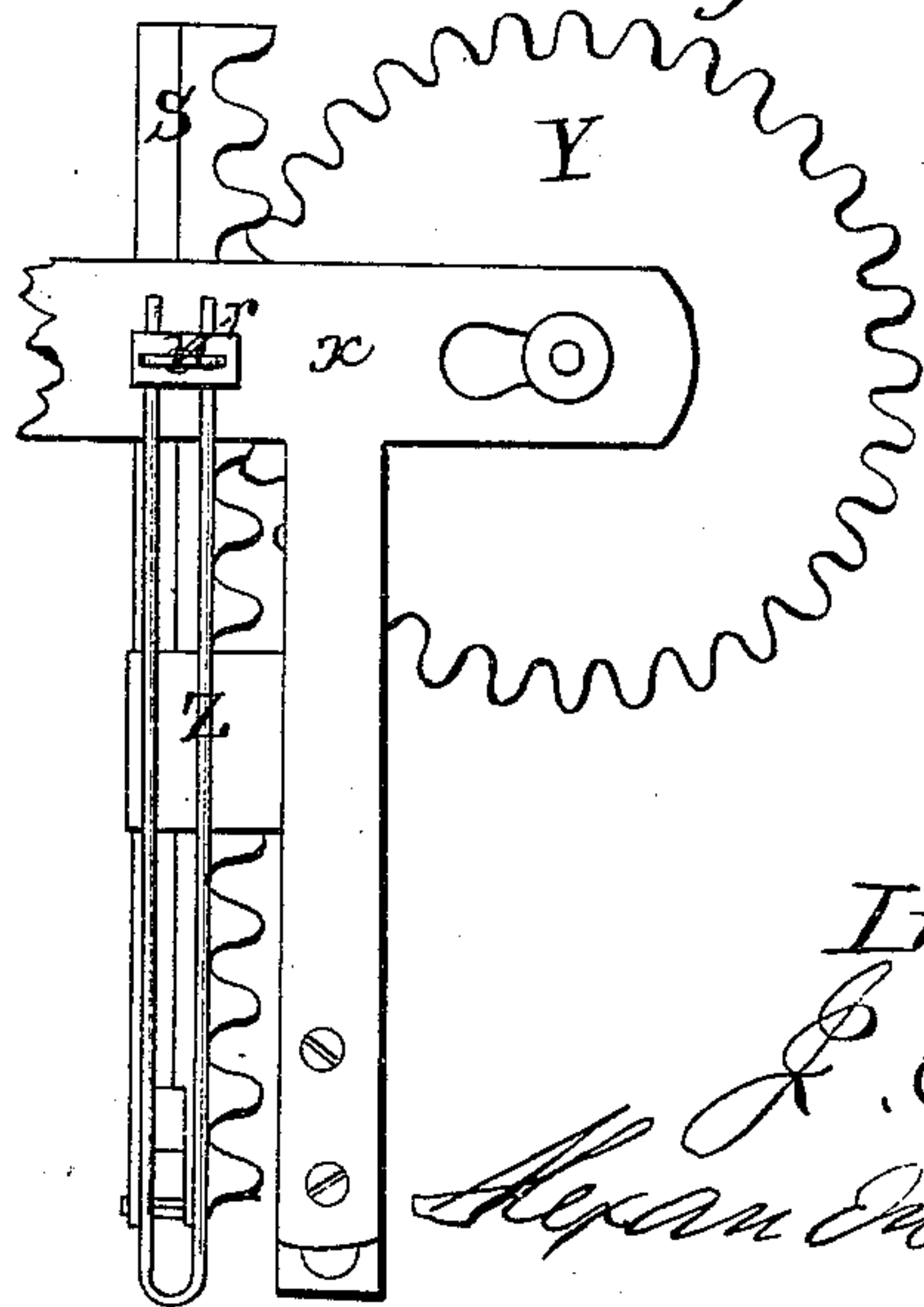


Fig: 2.



Witnesses;
R. S. Turner.
J. A. Lehmann

Inventor;
J. East.
Alexander Thomson
Atty's

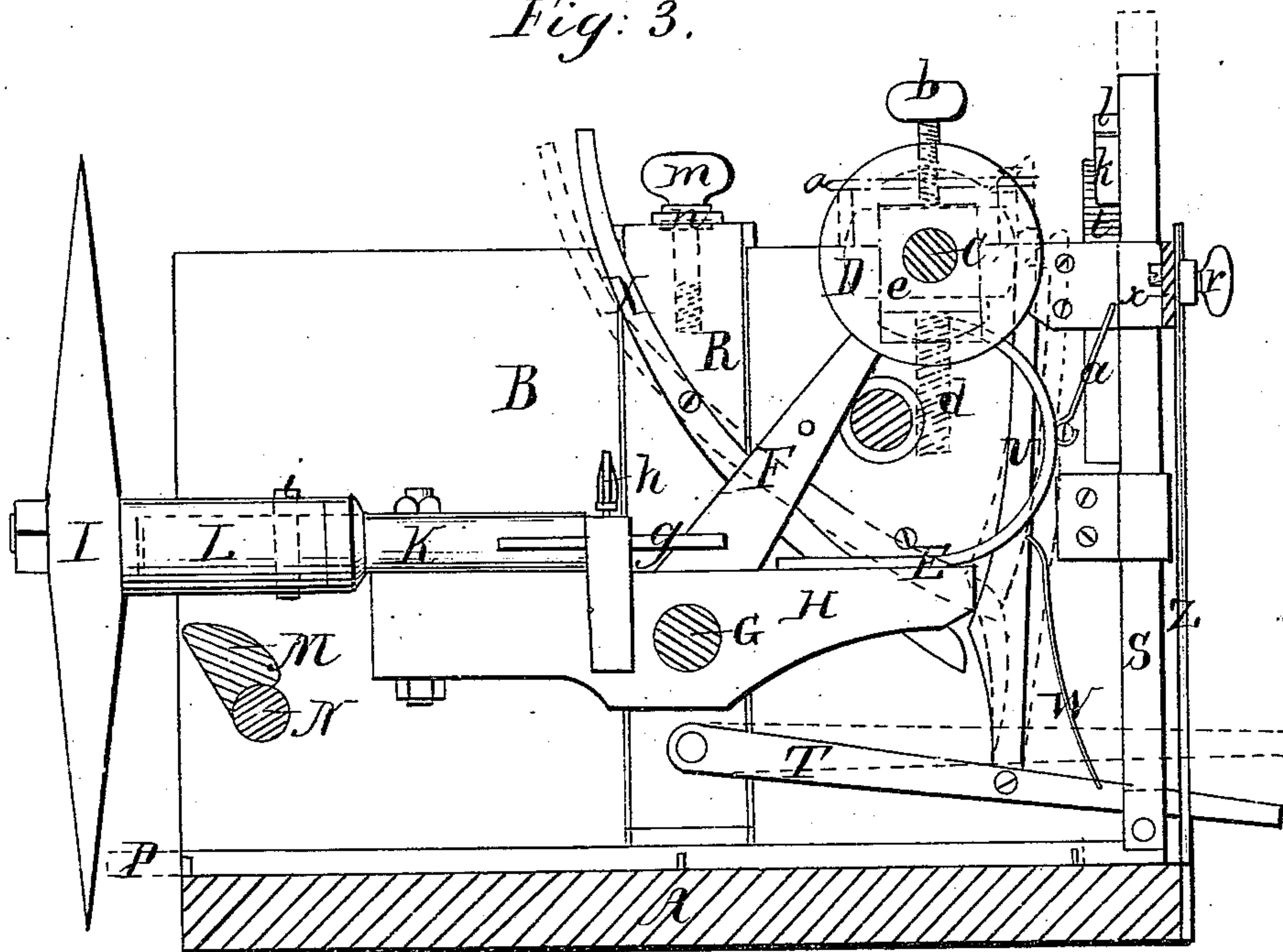
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Fig. 3.



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United States Patent Office.

JOHN EAST, OF ROMEO, MICHIGAN.

Letters Patent No. 93,867, dated August 17, 1869.

IMPROVEMENT IN MACHINES FOR DRESSING MILLSTONES.

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

To all whom it may concern:

Be it known that I, JOHN EAST, of Romeo, in the county of Macomb, and in the State of Michigan, have invented certain new and useful Improvements in Machines for Dressing Millstones; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction of a machine for dressing millstones, and in the arrangement of the devices hereafter set forth and explained.

Figure 1 is a plan view of my invention.

Figure 2 is a view of the wheel and toothed bar, which move the machine back and forward.

Figure 3 is a side view of the mechanism by which the toothed bar is operated.

Letter A represents the bed-piece, upon which the machine rests, and which remains stationary on the stone which is being dressed.

Upon the sides, there is a number of grooved projections, in which the sides B rest, and which form a track, upon which the frame moves back and forth; or, if desired, this piece can be made of cast-iron, and have the grooves sunk in its surface, instead of raised up above.

Extending across the frame is the crank-shaft C, which moves endwise in its bearings, so as to shift the picks from side to side.

Upon this shaft there are two cams D, which, in turning, strike against the curved arms E, and communicate an up-and-down motion to the picks.

The bearings, upon which the shaft C rests, are movable, and are held in position by means of the plates *a*, and regulated by the thumb-screws *b*.

Sunk in the side B, just under the movable bearings *e*, there is a coiled spring, *d*, which lessens the jar of the cams.

Secured to the shaft, there are two flat plates, so formed as to be forked at each end, and which serve as a lever to move the picks from side to side.

The upper ends of this lever F are passed around the shaft, on each side of the cams, so that when the shaft is moved endwise, it moves the picks along with it.

Pivoted upon the shaft G, there are two tilting-arms H, upon the ends of which are the picks I.

Upon the opposite ends from the picks, are two long curved arms E, which extend upward, so that the cams will strike them as they revolve.

The tilting-arms are secured loosely upon the shaft G, so that the lever F can shift them from side to side.

The pick-handles K are secured to the front ends of the tilting-arms, by means of a bolt, having an India-rubber head, and the plates *g*, extending from their

ends, which are fastened by means of the thumb-screws *h*, so as to adjust the picks together.

Passing over the ends of the pick-handles, are the sockets L, which are secured by means of the bolts or pins *e*, which pass entirely through and bind the two firmly together. By means of these sockets, the picks can be removed and replaced, without disturbing the adjusting-screws *h*.

These picks are of two kinds, either with plain cutting-edges, or the edges may be serrated or slotted, as may be desired.

Placed across the frame, just under the sockets, there is an India-rubber cushion or spring, M, which eases or lightens the strokes of the picks.

This spring is secured to the top of the shaft N, to the end of which is attached the handle O, so that the spring may be lowered and raised to any desired point.

Placed in the bottom of the frame, on top of the bed-piece A, is the slide P, which has a small notch or groove cut across its face in a straight line.

In using the picks, it is very necessary that their cutting-edges should be exactly level, and by drawing out this slide, and placing their edges in this groove, they can all be regulated in a moment.

Sometimes, in dressing a stone, the face of which is very uneven, it may be desired to lessen the weight of certain of the picks, or that they should not work at all, in which case, by bearing down, or putting weights on the back ends of the tilting-arms, this can be accomplished.

The bearings of the shaft G, upon which the tilting-arms are placed, are movable, consisting of long bar or plates R, dovetailed in the sides B.

Upon their tops, there are flat plates, bent at right angles to the slide, and slotted in the ends.

In the top of the sides B, there are thumb-screws *m*, which have a collar or neck cast upon them.

Over this neck, the ends of the slotted plates *n* pass, so that when the screws are turned, the bearings are raised or depressed at pleasure.

Were all the picks of a uniform length, this device would be unnecessary, but some are of a much greater length than others, and it is to provide for this that the movable bearings have been furnished.

Pivoted to the side of one of the adjustable bearings R, is a long, straight lever, T, which operates the toothed bar S.

Extending up from the lever, is an arm, U which has a shoulder formed on its upper end, so as to catch on the crank-pin, in the side of the disk V, on the shaft C.

On the back of this arm, extending up from the lever T, there is a flat spring, W, which keeps it pressed forward in place.

Pivoted to the same bearing as the lever T, there is a second lever, X, which is used to throw the arm U back, so that it will not engage with the pin on the disk.

Secured to the side B, and extending over the side of the arm U, is the guide *o*, which serves to keep it in place.

At each revolution of the disk, its pin catches the arm, and, in raising it up, draws the lever T upward, which lifts the toothed bar S with it.

This bar consists of a long, straight rod, extending upward through one or more guides, and has a series of cogs cut on its edge, so as to gear with the wheel Y.

Secured to the cross-piece, which serves as a bearing for the wheel Y, is the stirrup Z, which controls the speed of the machine.

When down at its full length, the lever T has a long sweep up and down, and the machine is then propelled at its full speed. But by shortening the stirrup, by means of the thumb-screw *r*, the sweep of the lever is lessened, thereby causing the toothed bar S to propel the wheel Y more slowly.

This wheel is secured loosely on the screw-shaft *w*, and turns independently of it.

Upon its front side, there is a spring *l*, which presses down upon, and holds in place a double-acting dog, *k*, by means of which the motion of the frame, back or forward, is reversed.

Secured firmly to the screw-shaft *w*, at the same end as the wheel Y, is the ratchet *t*, which turns the shaft *w*, by means of the dog *k*.

This shaft is supported, or has its bearings upon the cross-piece *x*, which extends from side to side, and the upright arm *y*, rising from the bed-plate A.

As soon as the ratchet sets the shaft to revolving, as it passes through the arm or support *y*, the frame is drawn either forward or forced back, as may be desired. By changing the ends of the dog, the motion can be instantly reversed, without stopping any part of the machine, or the dog can be balanced half way, without either end working, when the machine can at once be checked; or the motion can be checked by moving the shaft C far enough over, so that the arm U can no longer catch the disk V, or by moving back the lever X.

Any one of the three methods may be employed.

The picks cut in a straight line from the skirt of the stone to the eye, and *vice versa*.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The tilting-arms H, moving back and forth on the bar G, and provided with the curved arms E, in combination with the shifting-lever F, substantially as specified.

2. The rubber spring M, by means of which the strokes of the picks are lightened, or the picks raised clear of the stones, substantially as set forth.

3. The shaft C, provided with the disk V, cams D, and moving endwise in its bearings, substantially as described.

4. The movable bearings *e*, coiled spring *d*, and regulating thumb-screw *b*, when used substantially as specified.

5. The movable bearings R, placed in the sides B, when used to regulate the tilting-arms H, for either long or short picks, substantially as described.

6. The slide P, when used to regulate the cutting-edges of the picks, substantially as set forth.

7. The levers T and X, arm U, and spring W, when used to operate the toothed bar S, substantially as specified.

8. The stirrup Z, regulated by the thumb-screw *r*, when used to control the speed of the frame, substantially as described.

9. The toothed bar S, when used to operate the wheel Y, substantially as described.

10. The double-acting dog *k*, spring *l*, and wheel Y, when all are used to propel the frame forward or back, substantially as set forth.

11. The screw-shaft *w*, provided with the ratchet *t* and support *y*, when used substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand, this 5th day of May, 1869.

JOHN EAST.

Witnesses:

C. F. MALLARY,
D. C. GREEN.