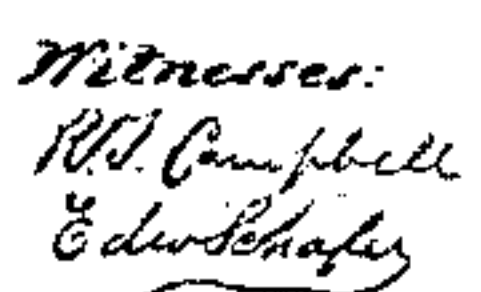


*W. M. Murrey,  
Dressing Millstones.*

*Patented Feb. 12, 1867.*



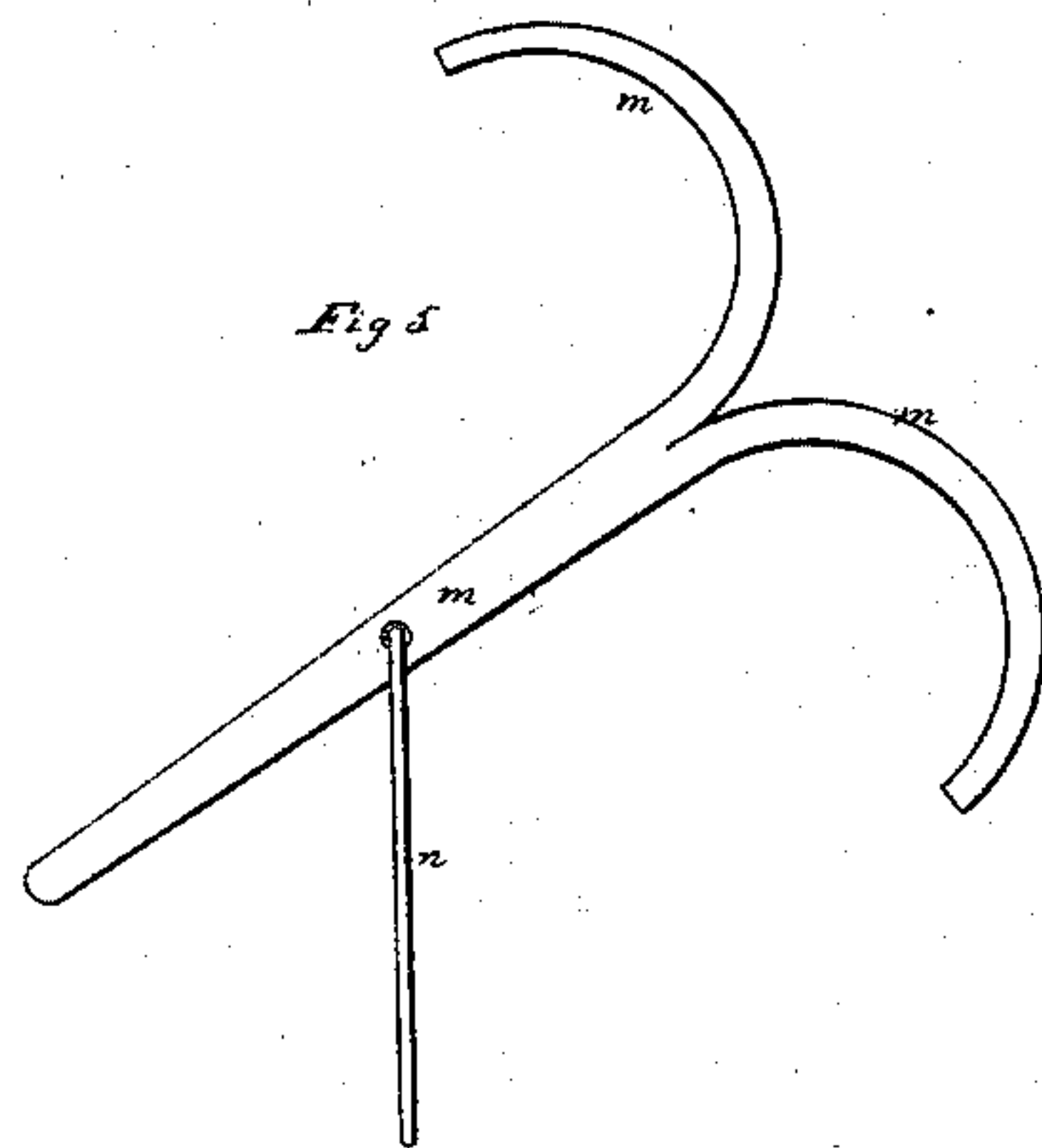
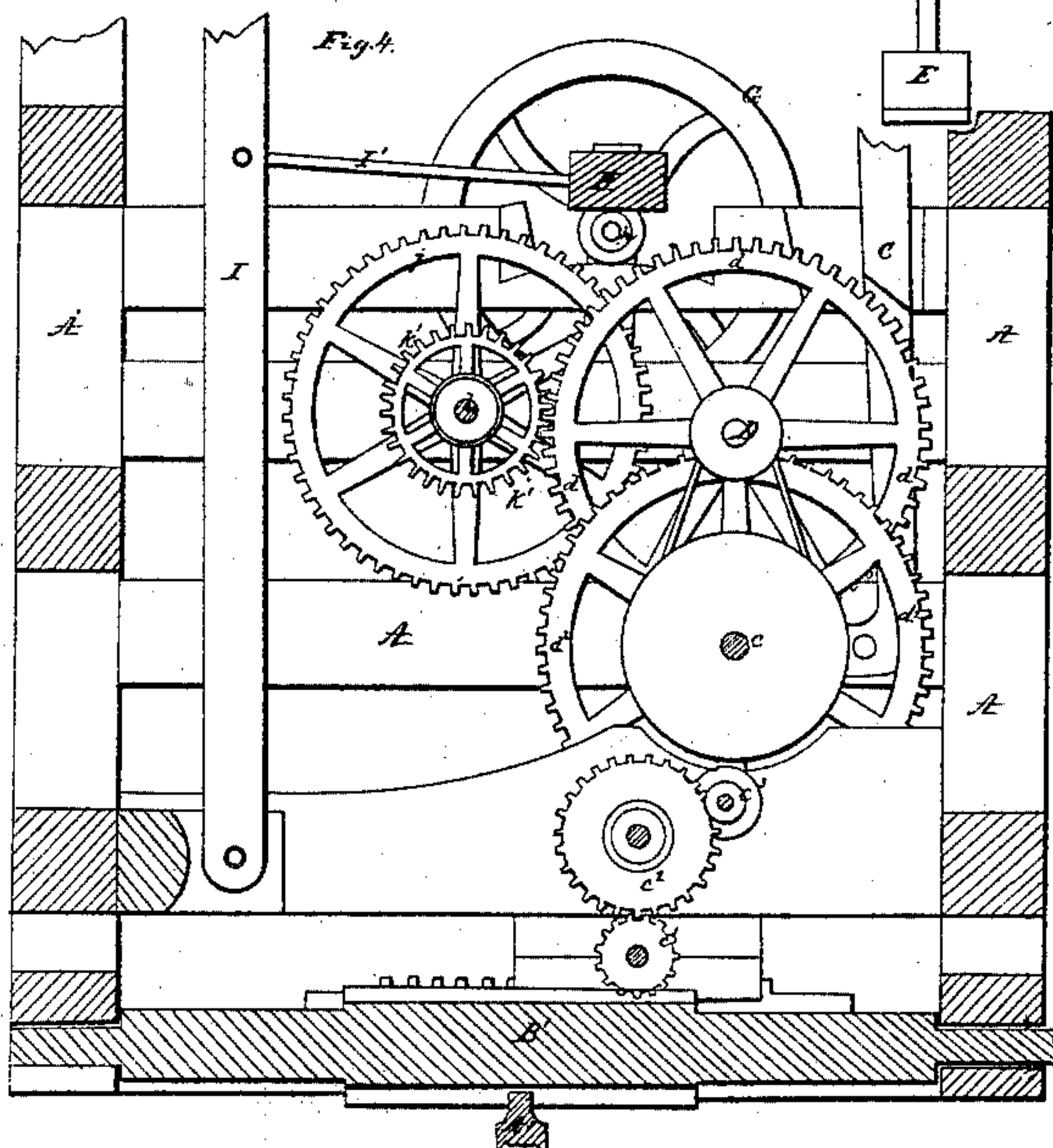
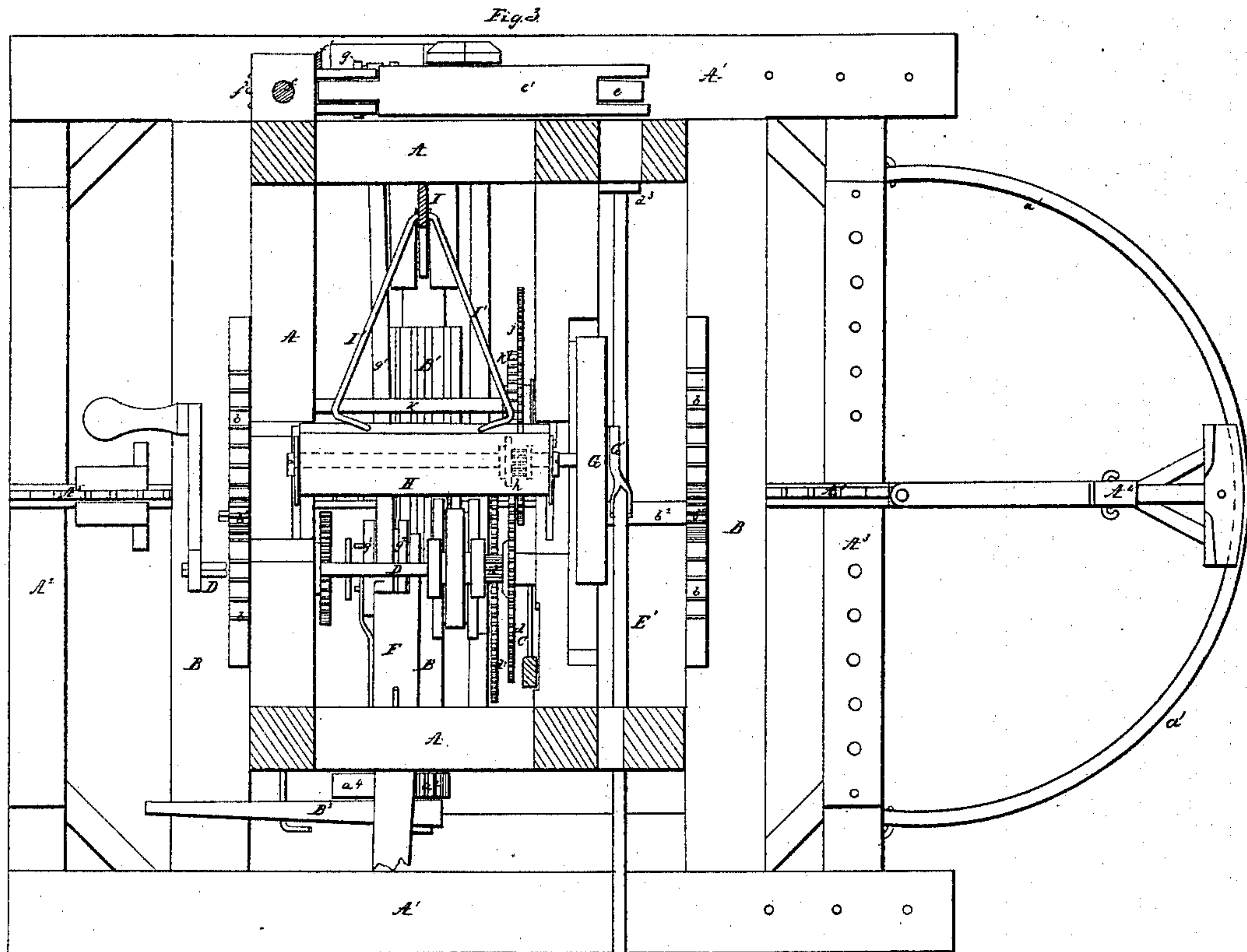
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Dressing Millstones.

N<sup>o</sup> 62,056.

Patented Feb. 12, 1867.



Witnesses:  
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# United States Patent Office.

WILLIAM M. MURREY, OF TIFFIN, OHIO.

*Letters Patent No. 62,056, dated February 12, 1867.*

## IMPROVED MACHINE FOR DRESSING STONE.

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, WILLIAM M. MURREY, of Tiffin, in the county of Seneca, and State of Ohio, have invented a new and improved Machine for Dressing Millstones; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, sheet 1, is an elevation of one side of the machine.

Figure 2 is an elevation of the front of the machine, as seen by taking a section in the vertical plane indicated by red line  $x x$ .

Figure 3, sheet 2, is a plan view of the machine, as seen by a horizontal section taken in the plane indicated by red line  $y y$ , fig. 1.

Figure 4 is a sectional view, showing the shaft, which operates the pick out of gear.

Figure 5 is a view of the hook-fastenings which attach the machine to the spindle of the bed-stone.

Similar letters of reference indicate corresponding parts in the several figures.

The invention which forms the subject of this application provides for attaching the machine to the "runner" or the bed-stone in such manner that the machine can be adjusted and set at any desired angle, according to the angle of the furrows; also for raising and lowering the fulcrum of the vibrating pick-handle, whether the pick be in motion or at rest, for the purpose of regulating the depth of the furrows or channels in the surface of the stone; also for adjusting the main frame upon its bed, toward or from the centre of the stone, or at right angles to such adjustment, as may be desired; also for increasing or diminishing the speed of the pick, or stopping the motion thereof, without changing or stopping the motion of the main driving-shaft, all as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

The horizontal bed-frame, upon which the main frame A is supported and adjusted, consists of two longitudinal beams  $A^1 A^1$ , connected together at their ends by means of transverse bars  $A^2 A^3$ , thus forming a rectangular frame or foundation, which is supported upon the surface of the stone to be dressed, and attached thereto by means of a hook,  $A^4$ , at one end, and a set-screw,  $a$ , at the other end. If the stone has an eye through it, the hook  $A^4$  is used; if it has no eye, but a spindle, then the hooks shown in fig. 5 are used. The hook  $A^4$  is pivoted by its horizontal arm to the middle of the perforated bar  $A^3$ , and steadied by the semicircular piece  $a^1$ , which receives a grooved head on the upper part of hook  $A^4$ , as shown in fig. 3. This hook enters the eye of the "running" stone, and holds the machine at this point. The set-screw  $a$  passes through a bracket, which projects down from the rack-bar  $A^5$ , and secures the machine down in place by setting this screw up tightly against the periphery of the stone. The inner edges of the beams  $A^1 A^1$  are grooved, for receiving the tenons on the ends of the two transverse bars B B, which latter are connected together at their ends by cross-pieces shown in fig. 3. The inner edges of the bars B are grooved, for receiving tenons, which are formed on the sides of frame A, which secures this frame down in place, and allows it to be adjusted in a direction at right angles to the beams  $A^1 A^1$ . The frame A is adjusted in a direction with the length of the beams  $A^1 A^1$  by means of a toothed roller,  $B^1$ , which has its bearing upon frame A, and which engages with a rack,  $A^5$ , that is secured to bars  $A^2 A^3$  at an equal distance from the bars  $A^1$ . On one end of the toothed roller  $B^1$ , outside of the frame A, a toothed wheel,  $a^2$ , is keyed, and on the extreme outer end of the said roller-shaft a lever,  $B^3$ , is loosely pivoted, which carries a double pawl,  $a^4$ . By means of lever  $B^3$  the frame A and base-frame B can be adjusted toward and from the eye of the stone. The toothed roller  $B^1$  is of such length as to admit of the proper adjustment of the frame A upon its bars B in a direction with these bars, without said roller becoming disengaged from its rack  $B^2$ . Frame A is adjusted upon its bars B by means of racks  $b b$  on these bars, which receive the teeth of pinion spur-wheels  $b^1 b^1$  on the ends of a shaft,  $b^2$ , which has its bearings on frame A. This shaft  $b^2$  receives a slow motion from a shaft,  $c$ , through the medium of gear-wheels  $c^1 c^2 c^3 c^4$ , and the shaft  $c$  receives motion from the main driving-shaft through the medium of spur-wheels  $d d^1 d^2$ . The shaft  $c$  has its bearings in frame A at one end, and in the lower end of a lever, C, at the other end; so that, by means of this lever, one end of the shaft  $c$  can be depressed, so as to move the spur-wheel  $d^2$  out of gear from the pinion-wheel on the main shaft D, thus stopping the movement of shaft  $c$  and the parts which this shaft is designed to operate.



The pick E is secured on the free end of the vibrating arm E<sup>1</sup>, which vibrates between vertical guides of frame A, and is pivoted at its rear end to a vertically-adjustable block, d<sup>3</sup>, to which a link, e, is pivoted. The upper end of this link is pivoted to a lever, e<sup>1</sup>, which, in turn, is pivoted to a nut, e<sup>2</sup>, through which a screw-rod, f, passes. By turning this screw-rod f, the fulcrum block d<sup>3</sup> can be raised or depressed, and the depth of stroke of the pick regulated. This screw-shaft f may be adjusted by hand, if desired, but I have provided means whereby the shaft f can be rotated by motion imparted to it from the main shaft. Near the lower end of the screw f is a bevel spur-wheel, f<sup>1</sup>, which engages with a spur-wheel, f<sup>2</sup>, on a short shaft, f<sup>3</sup>, shown in fig. 1. This shaft f<sup>3</sup> carries a belt-wheel, g, around which passes a belt, g<sup>1</sup>, that also passes around a belt-wheel, g<sup>2</sup>, on the shaft e. The wheel g<sup>2</sup> has a side movement allowed it, for the purpose of engaging and disengaging it with its shaft e. The lever F is used for moving the wheel g<sup>2</sup> laterally, and stopping and starting the screw f, at pleasure. The arm E<sup>1</sup> of the pick is connected to a wrist-pin applied concentrically to the surface of a fly-wheel, G, by means of a pitman, G<sup>1</sup>. The shaft of the fly-wheel G has its bearings upon a vibrating frame, A, which is connected to the lever I by a forked rod, I<sup>1</sup>, so that by vibrating this lever the frame H, with its fly-wheel shaft, will be vibrated, and thus the pinion spur-wheel h may be made to engage with either one of the spur-wheels d or j; or, if desirable, the wheel h may be held in a position where it will not engage with either one of said wheels. The large spur-wheel j is keyed on a shaft, k, and receives a rapid motion from the large wheel d by means of a pinion, k<sup>1</sup>, on shaft k, shown in fig. 4. When the pinion-wheel h engages with the wheel j, the pick receives a more rapid motion than is communicated to it when pinion h is in gear with the driving-wheel d. Thus a rapid or slow motion can be communicated to the pick, at pleasure, without changing the motion of the main driving-shaft. The device shown in fig. 5 is designed to be used instead of the hook A<sup>4</sup> shown in figs. 1 and 3. The hook A<sup>4</sup> is used, as before stated, for attaching the bed of the machine to the eye of the "runner" stone by hooking into this eye. The device shown in fig. 5 is designed for attaching the bed of the machine to the central spindle of the bed-stone, and for this purpose the hook A<sup>4</sup> and bow a<sup>1</sup> are removed from the bar A<sup>3</sup>, and the device of fig. 5 attached to this bar. This device consists of two hooks m m, formed on one end of a rod, m<sup>1</sup>, the other end of which has a stud formed on it, which enters one of the several holes in bar A<sup>3</sup>. This device is steadied by a diagonal brace, n, which also hooks into one of the holes in said bar A<sup>3</sup>. The two hooks m m are used for attaching the machine to the spindle of the stone, so that the former may be moved toward the right or toward the left. One hook embraces the spindle when it is desired to move the machine to the right, and the other hook is used when the machine is to be moved toward the left. When the machine has been secured down upon the face of a millstone, as above described, and the main driving-shaft D set in motion, the operator moves lever F so as to regulate the height of the rear end of arm E according to the depth of cut required. The lever I is then adjusted according to the speed required, so as to engage the pinion-wheel h with either one of the wheels d or j. When the proper adjustment of the rear end of arm E has been effected, the lever F is moved, so as to disengage the belt-wheel g<sup>2</sup> from its shaft e, thus stopping the movement of the screw f.

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

1. Supporting the adjustable frame A, which carries the vibrating pick, and the mechanism for operating it upon a bed-frame, A<sup>1</sup> and an adjustable frame, B, in such manner that frame A can be adjusted substantially as described.
2. The combination of the adjusting screw a, hook A<sup>4</sup>, stay a<sup>1</sup>, and perforated cross-bar A<sup>3</sup>, with the bed-frame A<sup>1</sup>, substantially in the manner described.
3. The construction of the device m m<sup>1</sup> n, for the purpose and in the manner substantially as described.
4. Pivoting the pick-arm E to a vertically adjustable block, d<sup>2</sup>, substantially as and for the purpose described.
5. The means, substantially as described, for adjusting the fulcrum-block d<sup>3</sup> for raising and depressing the rear end of the hammer arm.
6. The application of the shaft of wheel G to a vibrating frame, H, substantially as described.
7. The combination of vibrating frame H, pinion-wheel h, and spur-wheels d and j, arranged and operating substantially as described.
8. Supporting-shaft e, carrying the parts described, at one end by frame A, and at the other end upon the end of a lever C, substantially as and for the purposes described.

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Witnesses:

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