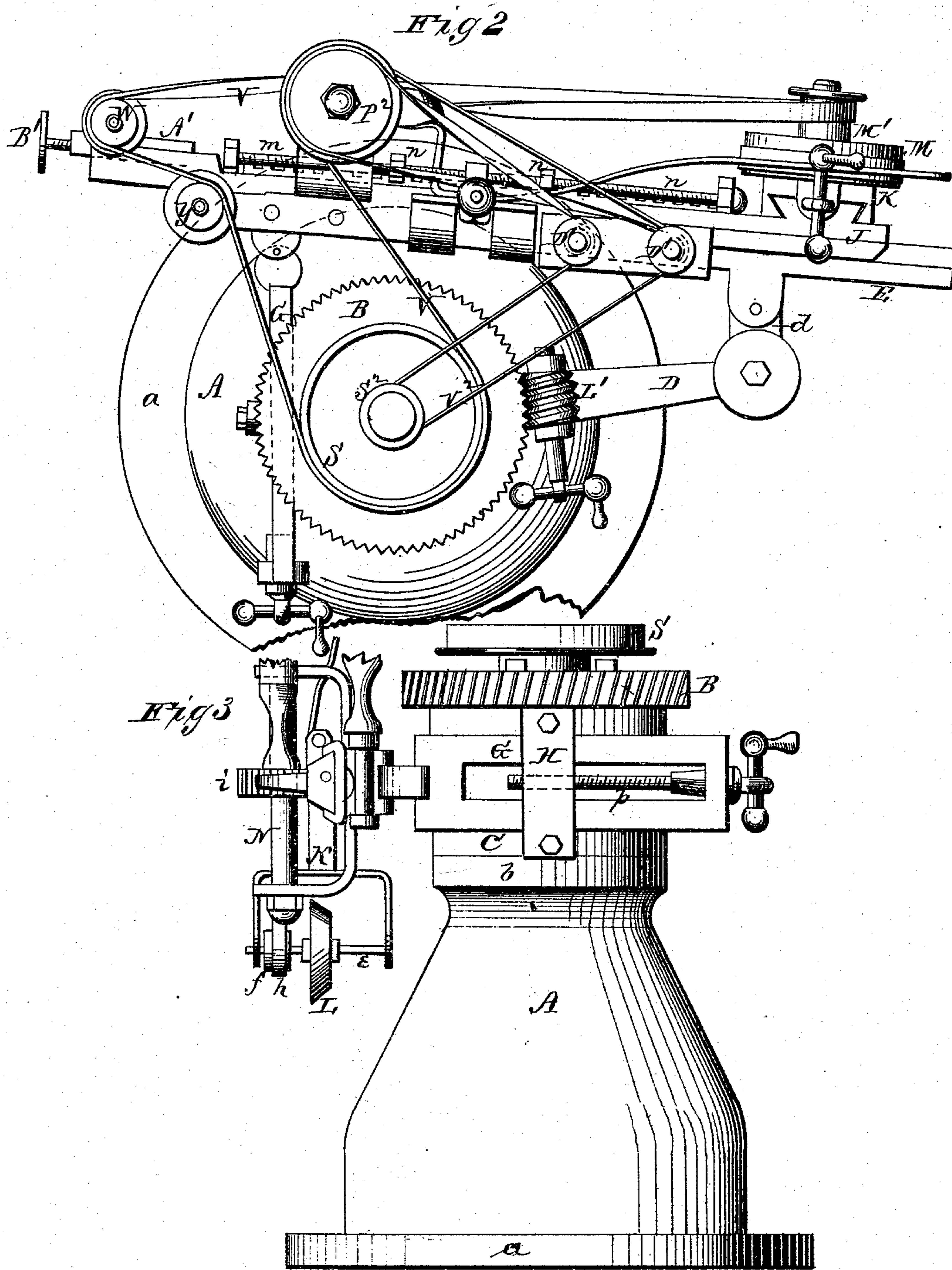


L. S. HOGEBROOM.
MACHINE FOR DRESSING MILL-STONE.
No. 172,267. Patented Jan. 18, 1876.



WITNESSES
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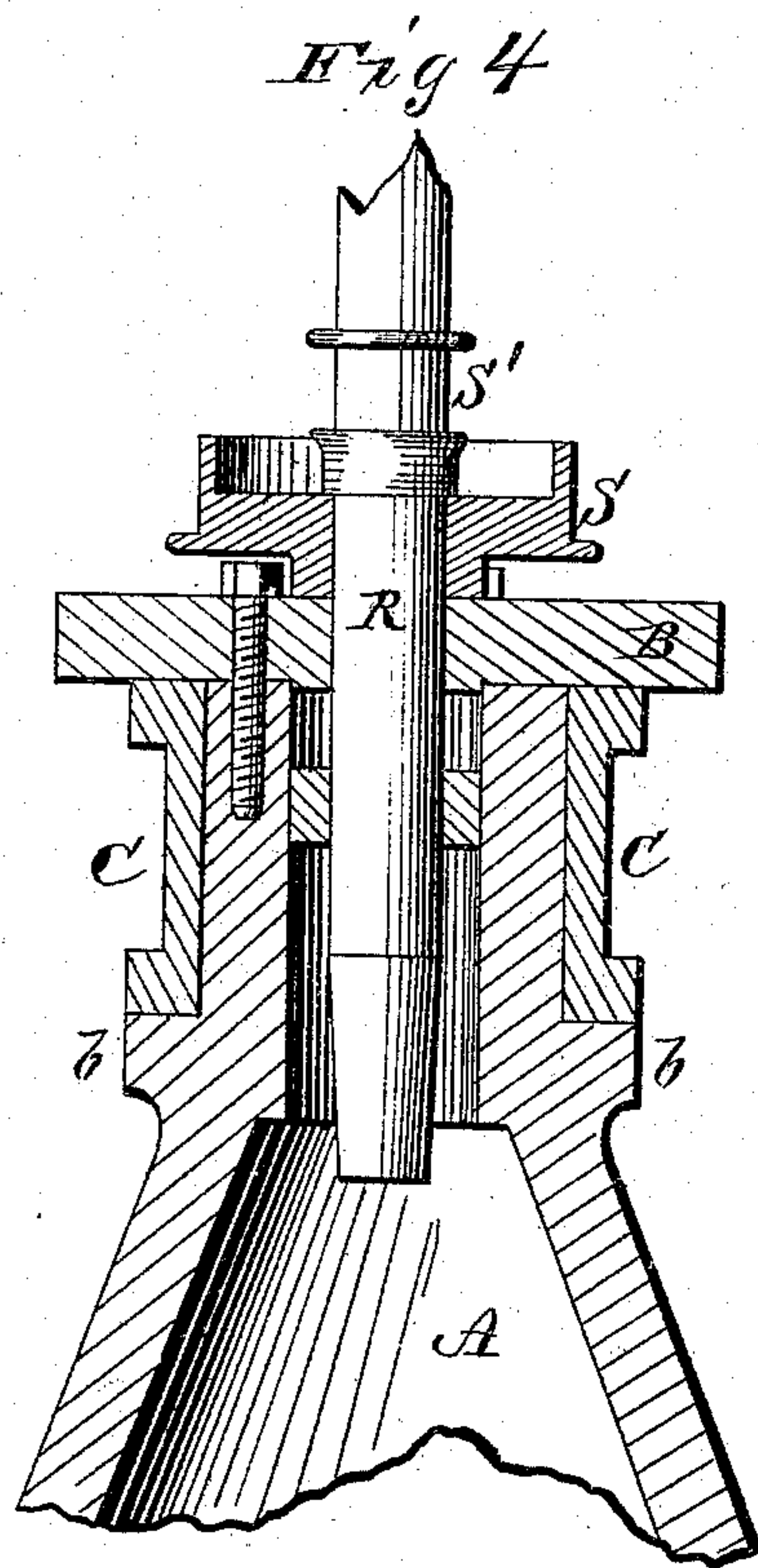
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UNITED STATES PATENT OFFICE.

LEVI S. HOGEBROOM, OF THREE RIVERS, MICHIGAN, ASSIGNOR TO THREE RIVERS MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR DRESSING MILLSTONES.

Specification forming part of Letters Patent No. **172,267**, dated January 18, 1876; application filed January 6, 1876.

To all whom it may concern:

Be it known that I, LEVI S. HOGEBROOM, of Three Rivers, in the county of St. Joseph and in the State of Michigan, have invented certain new and useful Improvements in Machines for Facing and Furrowing 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 and arrangement of a machine for dressing millstones, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a plan view, and Fig. 3 an end view, of the same. Fig. 4 is a vertical section of the upper end of the base.

A represents a hollow conical base provided at its lower end with a circumferential flange, *a*, and is to be placed over the eye of the bed-stone, perfectly concentric with the same, and fastened to the stone by any suitable devices. On the upper end of the base A is secured a horizontal worm-wheel, B, which is stationary on the base. Below this wheel the base is made cylindrical for a suitable distance downward, and around this cylindrical portion is placed a collar, C, to which the operating mechanism is attached, said collar resting upon a flange, *b*, on the base, as shown fully in Fig. 4. From one side of the collar C projects a horizontal arm, D, radially outward, in the outer end of which is pivoted a short bar or link, *d*, said link being also pivoted between two projecting ears on the back of a horizontal bar, E, for supporting one end thereof. The other end of said bar E is supported by means of a gate or frame, G, hinged thereto and passing through a guide, H, attached to the opposite side of the collar C.

The upper and lower edges of the bar E are beveled to receive a dovetailed head, J, to slide horizontally thereon, said slide being

formed with an extended bar, J', to the front of which bar and head or slide is attached a rack-bar, I, as shown. On the head J is a vertically-sliding frame, K, which carries at its lower end a vertical corundum-wheel, L, secured to an arbor, *e*, and this arbor provided with a pulley, *f*, connected by a belt, *h*, with a pulley, M, placed on a stud projecting from the upper portion of the frame K. In the rack-bar I meshes a pinion, *i*, secured upon an upright revolving shaft, N, having its bearings in arms projecting from the bar E. On this shaft are placed three loose pulleys, P, P¹, and P², the two latter of which are clutch-pulleys. Between the pulleys P¹ P² is a clutch, feathered on the shaft and movable up and down so as to be thrown in gear with either of said pulleys, or be held between them.

The machine is operated by the following means: R is a spindle passing through the center of the worm-wheel B and down into the base A. On this spindle are secured three pulleys, S, S¹, and S². Around the pulley S passes an endless belt, V, which runs, as shown in Fig. 1, around the pulley P on the shaft N, thence around a pulley, M', formed on or attached to the side of the pulley M, also around a belt-tightening pulley, W, and an idle pulley, Y. The pulleys P, W, and Y being all loose on their shafts, the motion is communicated direct from the spindle R to the pulleys M' M, and from thence by the belt *h* to the corundum-wheel, the spindle R being revolved by the power that runs the upper stone. The idle pulley Y is mounted on a post secured to the bar E, and the pulley W is mounted on a post, Z, projecting from a slide, A', moving in guides on the bar J' and adjusted by a screw, B', to tighten the belt V, as required. Around the pulleys S¹ S² pass respectively the belts V¹ and V², which pass around idle pulleys D' D', and around the clutch-pulleys P¹ P², as shown, one of said belts being twisted so as to impart motion in the opposite direction from that imparted by the other belt. The idle pulleys D' D' are placed upon vertical posts or spindles attached to the bar E. The clutch O has a circumferential groove, in which is placed the forked end of a lever, E', pivoted to a standard on the bar E, said lever

extending to the front end of the machine, where the operator stands, so that he can at any time change or reverse the motion of the sliding head J by throwing the clutch O in gear with either of the pinions $P^1 P^2$. When the machine is in operation this change is effected automatically, by the following means: On the pivot of the lever E' is pivoted another lever, G' , having a weight, H' , on its upper end, and its lower end is acted upon by stops, $n n$, placed upon a screw-rod, m , held in projecting ears on the slide $J J'$. As this slide moves in one direction one of the stops n turns the lever G' to a perpendicular position and slightly beyond, when the weight H' at once tilts it with sufficient force so that when it strikes a pin, x , on the lever E' , it turns this lever and moves the clutch O either up or down, as the case may be, and automatically reverses the motion of the slide $J J'$. The frame K, that carries the corundum-wheel L, is adjusted up and down by means of a screw, I' , the handle of which is located in close proximity to the end of the lever E' , so that the operator can easily handle the same when required.

The working mechanism is adjusted at any angle desired by means of a screw, p , moving the gate G in the guide H; and it is turned around the base by means of a worm, L' , arranged in bearings on the arm D and meshing with the wheel B.

By the use of the machine thus constructed the operator can quickly and correctly dress the millstone in any desired manner and make his furrows any length and depth required. The wheel L is made of corundum, it being the hardest known substance applicable to such work, and its edge is beveled, as shown in Fig. 3.

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

1. In a millstone-dressing machine the bar E, supporting the entire operating mechanism and indirectly connected to a collar, which is attached to and capable of being rotated upon a base, A, carrying the adjusting mechanism, all substantially as and for the purposes herein set forth.

2. The combination, with the swinging or turning collar C, provided with the projecting arm D, of the link d , bar E, with the operating mechanism attached thereto, and the sliding gate G, pivoted to said bar, and adjusted in the guide H on the collar by the screw p , substantially as and for the purposes herein set forth.

3. The combination, with the base A and collar C having the operating mechanism connected thereto, of the stationary worm-wheel B, secured on the base, and the worm L' , substantially as and for the purposes herein set forth.

4. The combination, with the adjustable bar E, of the slide $J J'$ reciprocating thereon, and the vertically-adjustable frame K carrying the revolving corundum-wheel L, and adjusted on the slide, substantially as and for the purposes herein set forth.

5. The combination, with the slide $J J'$ having rack-bar I, and the pinion i on the shaft N, of the loose clutch-pulleys $P^1 P^2$ on said shaft, the movable clutch O, lever E, with pins $x x$, lever G' , with weight H' at its upper end, and the adjustable stops $n n$ for automatically reversing the motion of the slide, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of December, 1875.

LEVI S. HOGEBROOM.

Witnesses:

D. D. TENNYSON,
M. E. BOOTH.