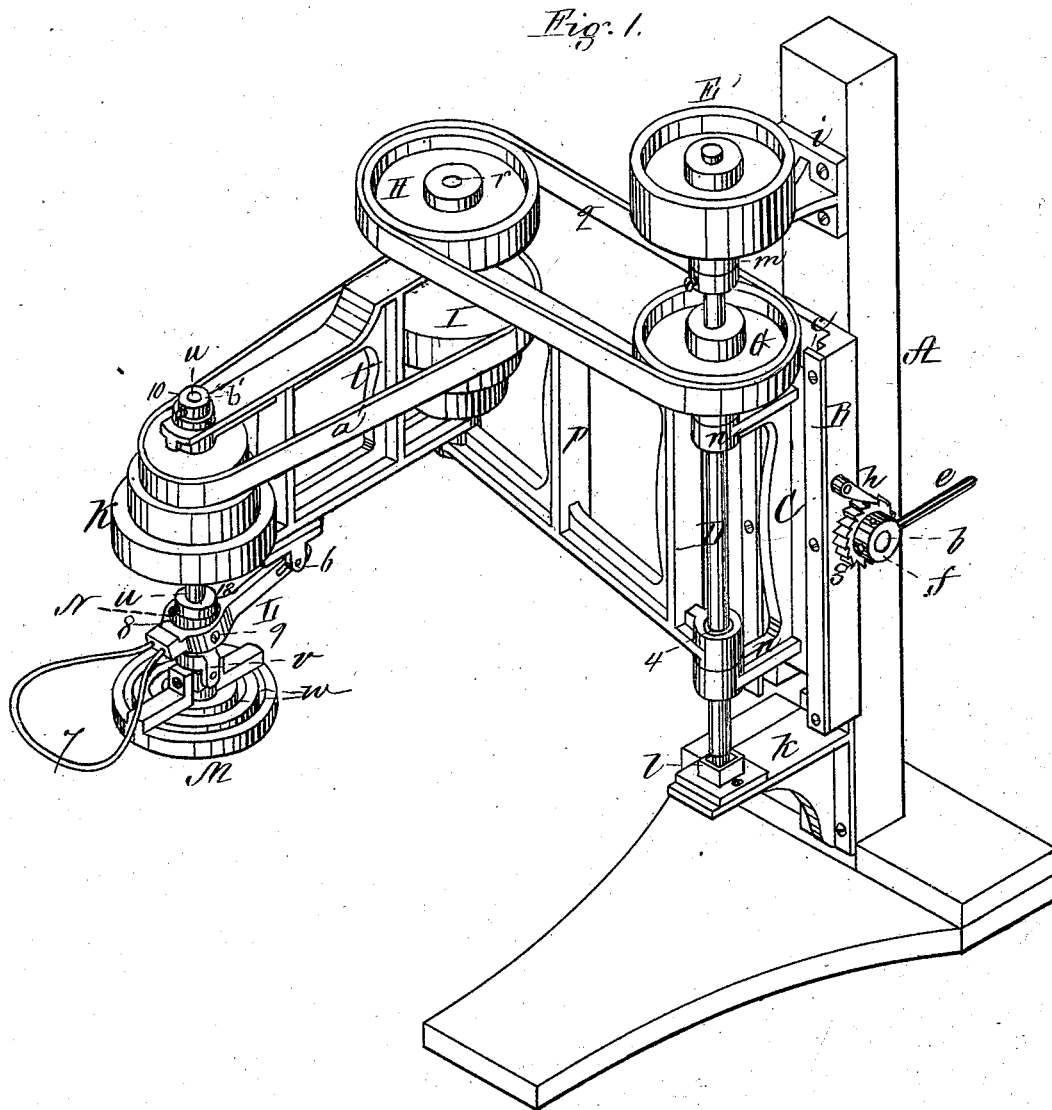


M. & P. C. WRIGHT.
Stone and Glass Polisher.

No. 203,234.

Patented April 30, 1878.



Witnesses,
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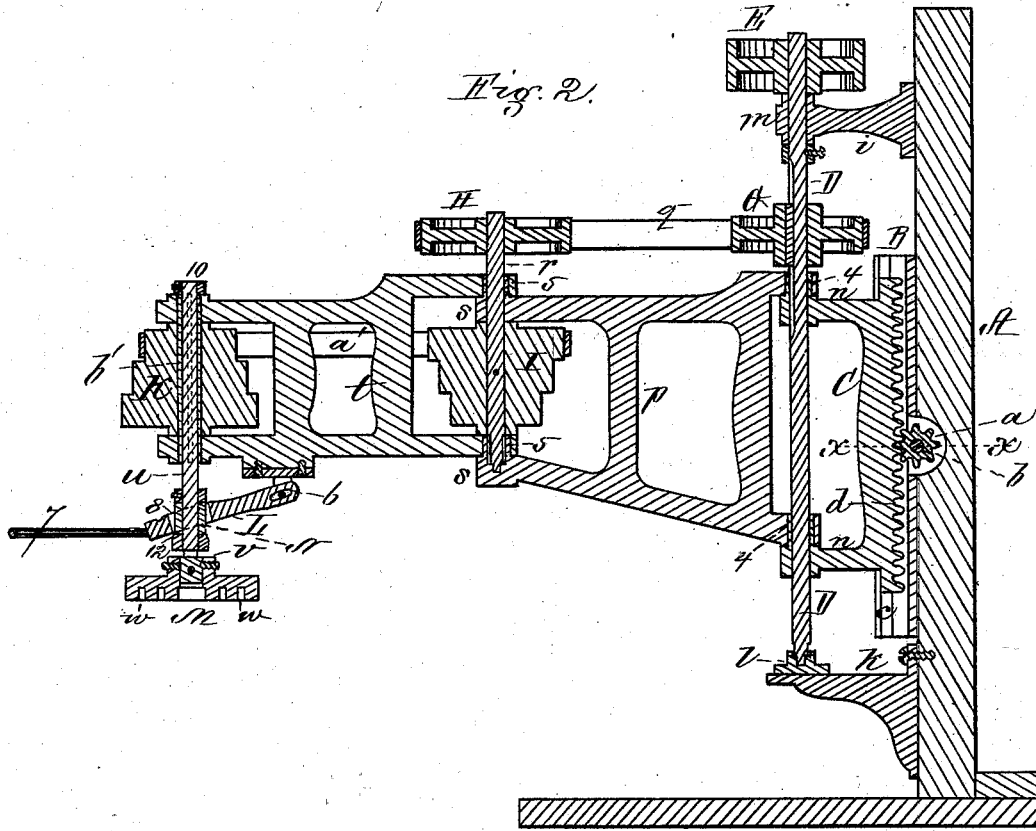
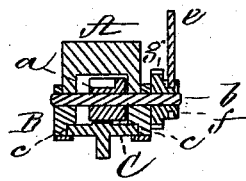


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

MEDAD WRIGHT AND PRENTISS C. WRIGHT, OF MONTPELIER, VERMONT.

IMPROVEMENT IN STONE AND GLASS POLISHERS.

Specification forming part of Letters Patent No. **203,234**, dated April 30, 1878; application filed March 8, 1878.

To all whom it may concern:

Be it known that we, MEDAD WRIGHT and PRENTISS C. WRIGHT, both of Montpelier, in the county of Washington and State of Vermont, have invented certain Improvements in Stone-Polishing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a stone-polishing machine constructed in accordance with our invention. Fig. 2 is a longitudinal vertical section through the center of the same. Fig. 3 is a transverse section on the line *x x* of Fig. 2.

Our present invention relates to that class of stone-polishing machines in which the revolving polisher is connected by a universal joint to a swinging jointed frame capable of being raised or lowered to adjust the height of the polisher to stones of varying thicknesses; and our invention consists in attaching the jointed swinging frame of the polisher to a vertical frame made to slide in a fixed guide secured to a stationary post, this sliding frame being raised and lowered by means of a rack and pinion, the shaft of the latter being provided with a ratchet-wheel, (located on the outside of the guide,) with which engages a pawl for holding the vertical frame when adjusted to the required height, the vertical driving-shaft passing through the sliding frame, and resting in a step supported by a bracket extending out from the side of the post, by which construction we very materially reduce the friction and wear incident to a shaft provided with collars which rest on fixed bearings, and thus economize power; and our invention also consists in the combination, with the jointed swinging frame of a stone-polisher, of cone-pulleys for changing the speed transmitted from the driving-shaft to the polisher, the cone-pulleys being located within the frame, instead of outside thereof, as heretofore, and being connected with shafts of peculiar construction, whereby the friction is more uniformly distributed upon the upper and lower bearings of the pulley-shaft.

To enable others skilled in the art to under-

stand and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A is an upright post intended to be secured to the side of a building, and to rest on a stone support. (Not shown.)

Secured to the front of the post is a vertical guide-piece, B, provided with a pinion, *a*, secured to a horizontal shaft, *b*, extending transversely through the guide-piece, in grooves *c*, or on ways in which slides a vertical metallic frame, C, the side of which next the pinion *a* is provided with a toothed rack, *d*, which is moved by the pinion *a*, secured to the shaft *b*, which is turned by a bar, *e*, fitting into a hole in a projecting portion, *f*, of the ratchet-wheel *g*, with the teeth of which a pawl, *h*, engages, so as to hold the sliding frame at any desired height, the wheel *g* being securely fixed to the shaft *b*.

Extending out from the post A, near its top and bottom, are two brackets, *i k*, the lower one, *k*, being provided with a step, *l*, (which is hollowed out to form an oil-receptacle,) in which revolves the lower end of a vertical shaft, D, its top turning in a bearing, *m*, in the bracket *i*. Upon the upper end of this shaft is a pulley, E, which is connected by a belt (not shown) with the driving power, and this shaft passes down through the ends of two arms, *n*, projecting out from the sliding vertical frame C, these arms *n* being provided with circular projections 4, over which fit the inner ends of the top and bottom of the inner portion *p* of a jointed swinging frame, by which construction the latter is free to move on the sliding frame C around the shaft D as a center. Also, secured to the shaft D, a short distance below the pulley E, is another pulley, G, splined on the shaft, this pulley G, by a belt-connection, *q*, driving a pulley, H, on the top of a vertical shaft, *r*, which revolves in bearings *s* in the outer ends of the inner portion *p* of the swinging frame, the inner ends of the outer portion *t* of this swinging frame fitting over projections 5, rising from the former, the shaft *r* passing through these projections, by means of which the two portions *p t* of the frame are pivoted together.

The lower bearing of the shaft *r* forms a

step, the interior of the upper portion of which is intended to be enlarged to form a receptacle for containing oil.

From the foregoing it will be seen that the construction above described enables the operating parts to move with but little friction and wear, thus increasing the durability of the machine.

Upon the shaft *r*, between its bearings, and within the swinging frame, is secured a cone-pulley, I, the upper portion of which is of larger diameter than its bottom. This cone-pulley drives, by means of a belt, *a'*, another cone-pulley, K, arranged with its smaller portion uppermost, and secured to a hollow shaft, *b'*, surrounding a vertical splined shaft, *u*, carrying at its lower end a polisher, M, the cone-pulley K being located within the space between the ends of the portion *t*.

The shaft *u*, besides having a rotary motion, is also capable of being moved up or down in a vertical direction by means of a looped handle-*lever*, L, pivoted at 6 to the under side of the portion *t* of the swinging frame, for a purpose now to be explained. To the lower end of this sliding vertical shaft *u* is connected, by a universal joint, *v*, the circular metallic polisher M, provided with a series of concentric grooves or openings, *w*, this polisher, while rotating, being guided over and upon the surface of the stone to be polished by taking hold of the looped end 7 of the lever L, which is provided with an eye, 8, in which (and secured by screws 9) is an annular fixed collar, N, through which the shaft *u* passes, the amount of vertical motion of this shaft being limited by a collar, 10, at its top, and a collar, 12, surrounding the shaft, just underneath the bottom of the portion *t* of the frame, by which construction and arrangement the operator may have perfect control over the polisher, and cause it to be brought into contact with every portion of the surface of the stone to be

polished, the polisher being raised or lowered with facility to accommodate stones of different thicknesses.

By the employment of the cone-pulleys I K within the frame, the rate of speed can be readily changed, according to the size or description of polisher in use and the nature of the work to be performed, while the location of the pulleys is such that the friction will be uniformly distributed upon the upper and lower bearings of their shafts.

What we claim as our invention, and desire to secure by Letters Patent, as an improvement in stone-polishing machines, is—

1. The combination of the jointed swinging polisher-frame *p t* with the frame C, sliding in the fixed guide B, rack *d*, pinion *a*, shaft *b*, ratchet-wheel *g*, pawl *h*, and the vertical driving-shaft D, revolving in a bearing, *m*, and a step, *l*, in the bracket *k*, attached to the stationary post A, all constructed, arranged, and operating substantially in the manner and for the purpose set forth.

2. In a machine for polishing stone, the cone-pulley K, secured to the hollow shaft *b'*; surrounding the vertical splined polisher-shaft *u*, and arranged within the jointed swinging polisher-frame composed of two portions, *p t*, pivoted together by means of socketed ends, and projections 5, in combination with the cone-pulley I, secured to the shaft *r*, revolving in bearings *s* in the outer end of the inner portion *p* of the swinging frame, all constructed, arranged, and operating substantially in the manner and for the purpose set forth.

Witness our hands this 4th day of March, A. D. 1878.

MEDAD WRIGHT.

PRENTISS C. WRIGHT.

In presence of—

C. C. PUTNAM, Jr.,

J. E. PUTNAM.