J. MILLER.

Improvement in Traverse Motion for Polishing Machines.

No. 132,481. Patented Oct. 22, 1872.

Fig: 1

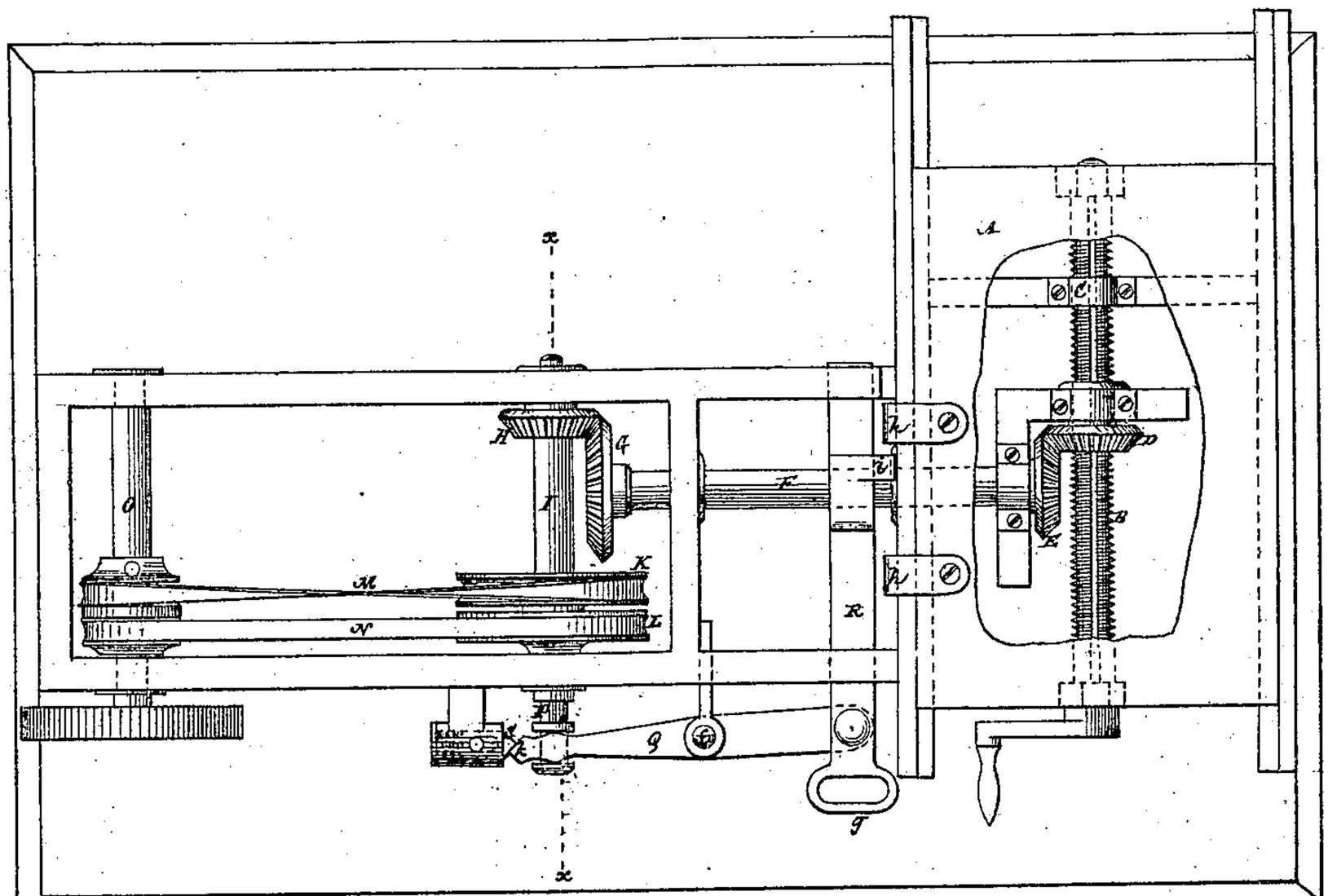


Fig: 2

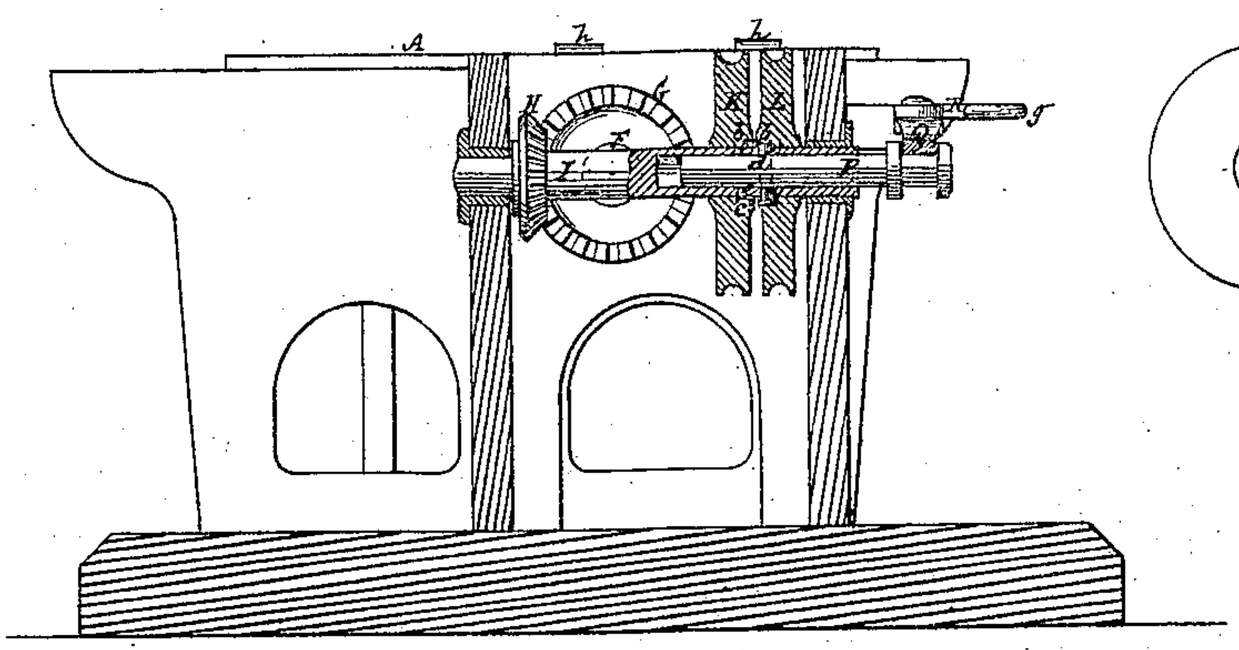
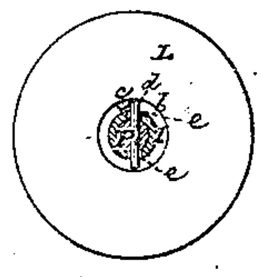


Fig: 3



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES MILLER, OF NEW YORK, N. Y.

IMPROVEMENT IN TRAVERSE-MOTIONS FOR POLISHING-MACHINES.

Specification forming part of Letters Patent No. **132,481,** dated October 22, 1872.

To all whom it may concern:

Be it known that I, JAMES MILLER, of the city, county, and State of New York, have invented a new and useful Improvement in Traverse Motions for Glass-Polishing and other Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of a glass-polishing machine, in part, having my invention applied; Fig. 2, a transverse section of the same at the line *x x*; and Fig. 3, a face view of one of a pair of operating-pulleys with accompanying devices forming part of my improved traverse-motion.

Similar letters of reference indicate corresponding parts.

This invention consists in a novel combination of devices applicable, among other purposes, to traverse-motions for reciprocating the beds or sliding-tables of glass-polishing and other machines, the same including a pair of loosely-hung and reversely-revolving operating-pulleys thrown into or out of driving connection with the shaft from which motion is communicated to the bed by means of a sliding rod arranged longitudinally within said shaft, and coupled by a cross-pin and slot to revolve in common with the shaft, and, accordingly as said rod is forced in or out, to gear or connect with either of the pulleys for the purpose of rotating the shaft in either direction, such reversing-rod having connected with it a double or reversely-beveled shifting-lever arranged to operate in connection with a spring-stop that serves to throw the rod in the direction it is started when shifting or reversing, and to hold the rod in its changed position.

A is the polishing-bed of a glass-polishing machine arranged to reciprocate across the main frame, and actuated by a traverse motion consisting of a traveling-screw, B, working through a stationary nut, C, and having a bevel-wheel, D, in feather-gear with it, for rotation of the screw by a bevel-wheel, E, upon the outer end of a shaft, F. This shaft receives its motion by bevel-gears G H from an operating or reversing shaft, I. Upon the shaft I are two loose pulleys, K L, driven in reverse direction by cross and straight belts M N from or by pulleys fast on a primary driving-shaft, O. The pulleys K L have central cavities *b b* in their adjacent faces, each of which cavities has a driving-stud, *c*, for the purpose of causing either reversely-rotating pulley to operate the shaft I as follows: That portion of said shaft around which are arranged the pulleys K L, and outward to the one end of the shaft, is made hollow and has arranged longitudinally within it a sliding rod, P, which extends through the open end of the shaft, and which is free to revolve with the shaft by means of a cross-pin, *d*, attached to the rod and made to project through a longitudinal stop or slots, *e*, in the shaft, so that on said rod P being slid to a limited extent inward or outward, as the case may be, its pin *d* is adjusted into position for the driving-stud *c* of either one pulley K or L to strike it and so rotate the shaft I in common with such pulley. This sliding and reversing rod P is operated from its outside or projecting portion by a shifting-lever, Q, arranged to enter between collars on the rod and having its fulcrum at *f*. Said lever may be either actuated by hand—as, for instance, by pulling or pressing on a handle, *g*, of a sliding bar, R—or it may be operated automatically by means of drivers *h h* attached to the bed A, alternately striking, at the ends of the traverse stroke of the bed, a projection, *i*, of the sliding bar. In either case, however, it is only necessary to thus partially move the shifting-bar Q its required distance to throw the pin *d* of the sliding rod P so that the driving-stud *c* of either pulley K L will strike it for the purpose of starting or reversing the motion of the polishing-bed. This is accomplished by making the back end of the shifting-lever Q of a double or reverse bevel, as at *k*, and arranging the same to operate in connection with a similarly double or reversely beveled spring-stop, S, whereby when the culminating point of the lever passes the culminating point of the stop the latter, which in the early movement of the lever was previously pressed inward, is thrown outward by the spring and said stop made to complete the motion of the shifting-lever, as also to afterward hold it in its changed position. This action of the shifting-lever and spring-stop applies to both movements of the lever, and

by means of it a quick and sure reversing movement is obtained. The screw B of the bed A may be fitted with a handle for adjusting or independently moving said bed as required.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination, with the loose reversely-revolving pulleys K L, of the hollow shaft I, the slot or slots *e*, the inner sliding rod P with its pin *d*, and the driving-studs *c* in the adjacent face-cavities *b* of the pulleys, substantially as specified.

2. The combination of the sliding or reversing rod P of the spring-stop S and the shifting-lever Q, when said stop and lever are constructed at their meeting ends substantially as described, whereby said stop operates to complete the shifting motion of the lever.

JAMES MILLER.

Witnesses:

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