

A. W. WINALL.

Devices for Adjusting Millstones.

No. 137,748.

Patented April 8, 1873.

Fig. 1.

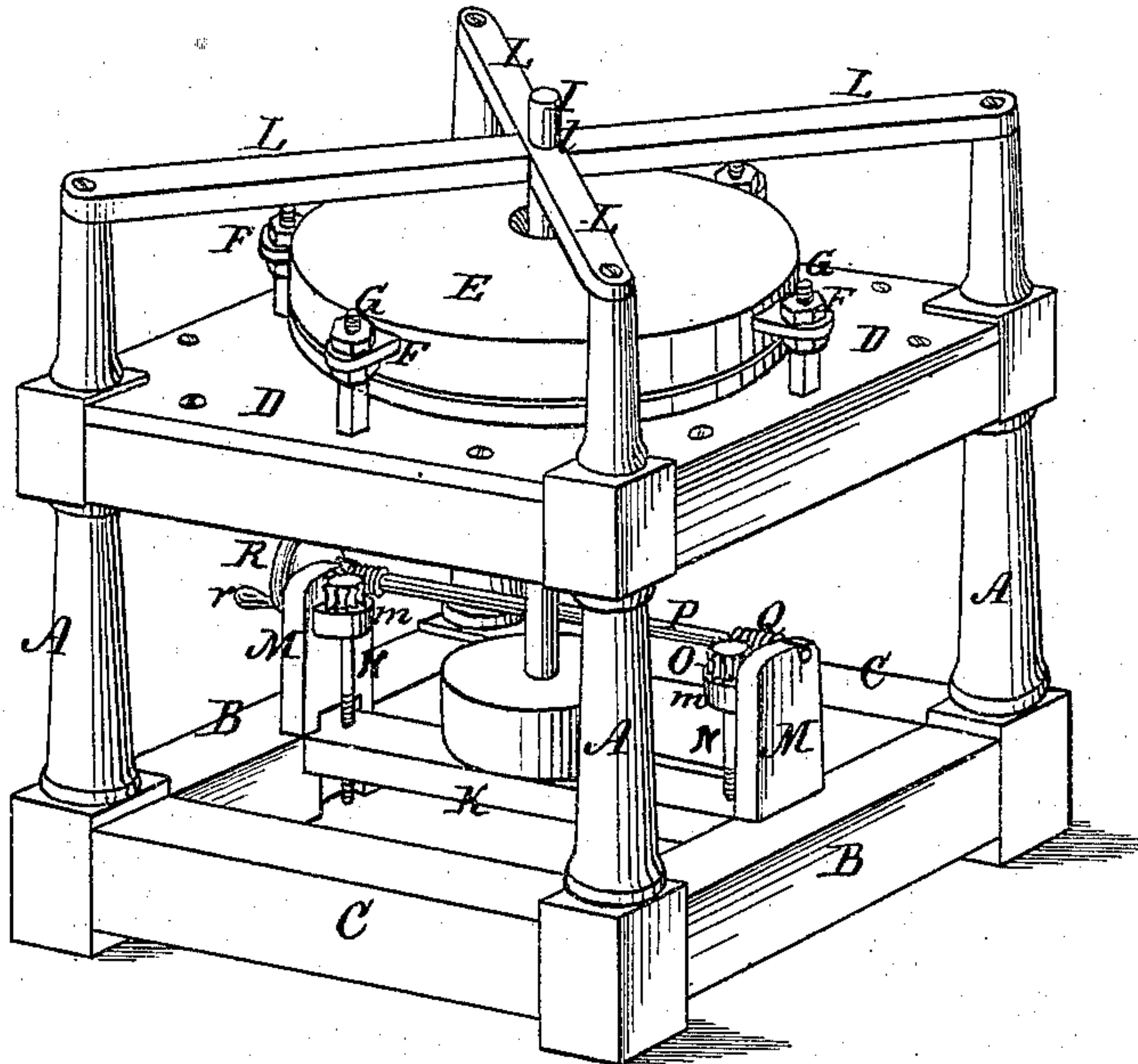


Fig. 2.

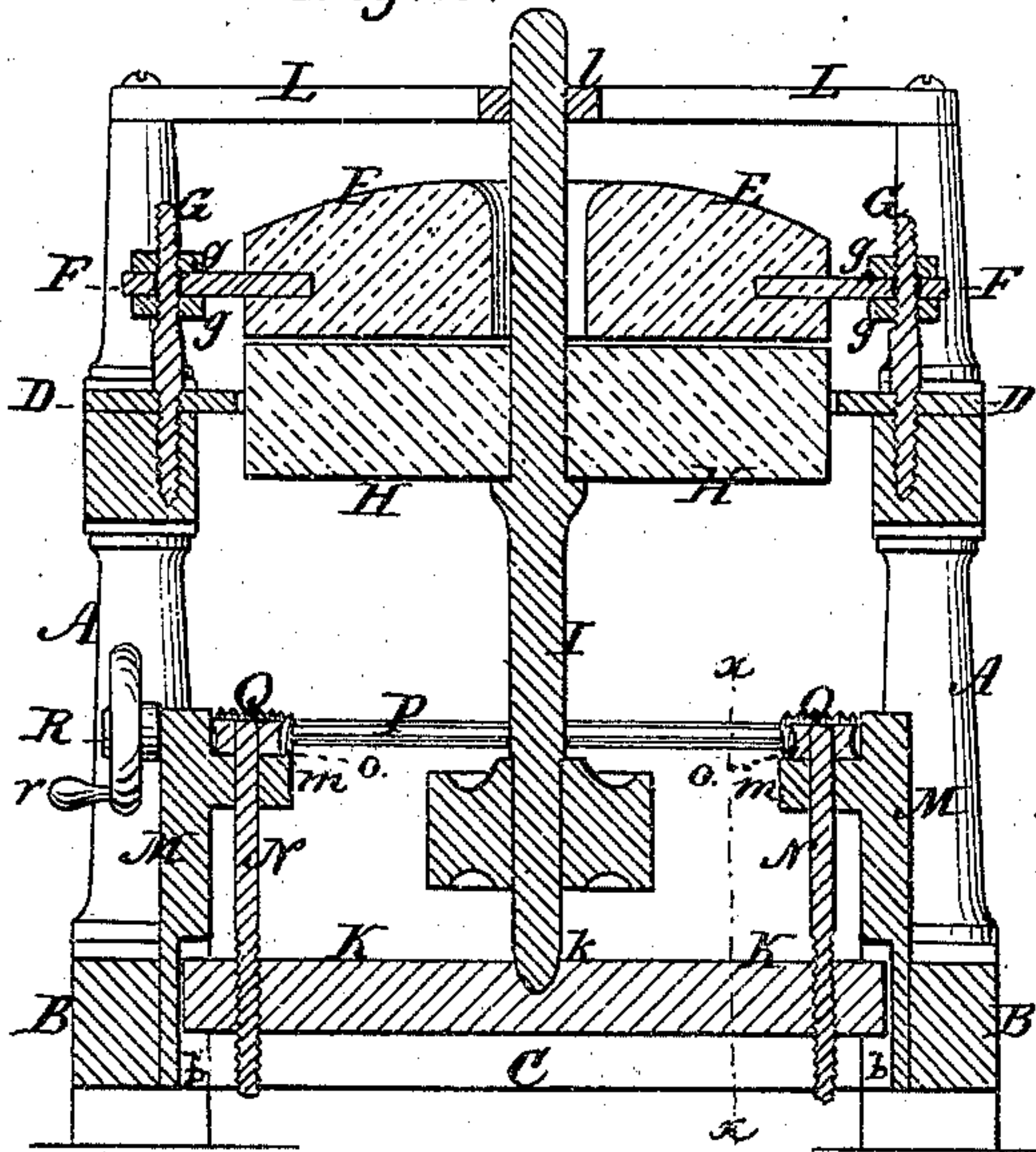
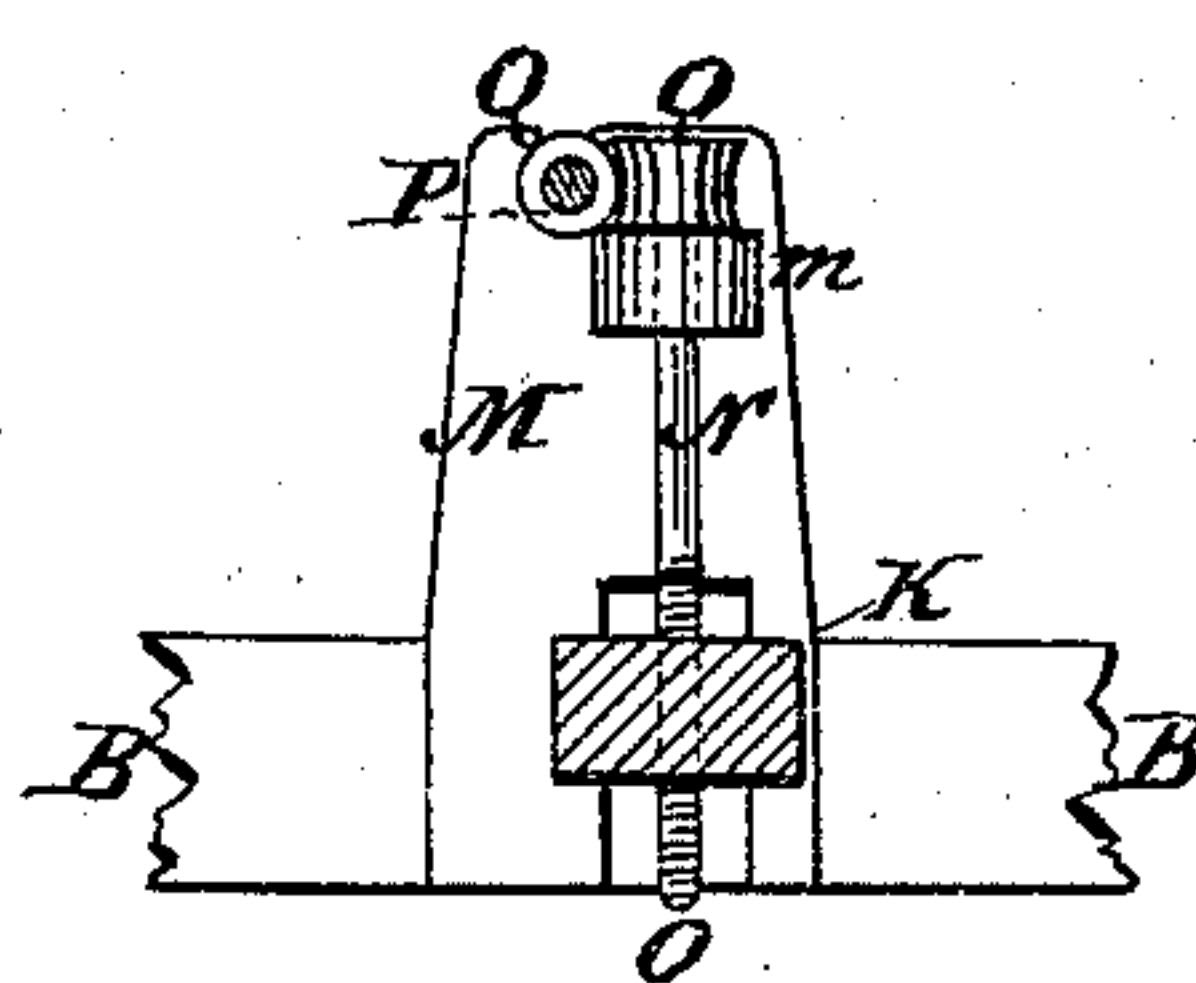


Fig. 3.



Witnesses.

Edmund Masson

John R. Young

Inventor.

A. W. Winall, by
Orindle and Co. his Attys

UNITED STATES PATENT OFFICE.

ALEXANDER W. WINALL, OF CINCINNATI, OHIO.

IMPROVEMENT IN DEVICES FOR ADJUSTING MILLSTONES.

Specification forming part of Letters Patent No. 137,748, dated April 8, 1873; application filed March 17, 1873.

To all whom it may concern:

Be it known that I, ALEXANDER W. WINALL, of Cincinnati, in the county of Hamilton and in the State of Ohio, have invented certain new and useful Improvements in Grinding-Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view of a grinding-mill containing my improvements. Fig. 2 is a vertical central section of the same, and Fig. 3 is a cross-section on line *x x* of Fig. 2.

Letters of like name and kind refer to like parts in each of the figures.

My invention is an improvement upon a grinding-mill, for which Letters Patent No. 135,393 were issued to me upon the 28th day of January, 1873; and it consists in the means employed for suspending and for simultaneously raising or lowering the ends of the bridge-tree, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A and A represent four posts, connected together near their lower and upper ends by means of suitable horizontal rails B and C, respectively, and provided upon the upper side of the latter with a floor or cover, D, the whole forming the frame of a grinding-mill. Above the center of the floor D is placed a fixed millstone, E, which is provided with three or more radial lugs, F, that extend horizontally outward and pass over suitable threaded posts or standards G, which are secured within, and project vertically upward from said floor. A nut, *g*, placed upon each standard above and below each lug, enables the latter to be adjusted vertically, so as to insure the horizontality of the lower or grinding face of the stone. Within a corresponding opening formed in the floor D is placed the running-stone H that is provided with a spindle, I, the lower end of which rests within a suitable step, *k*, formed within a bridge-tree, K, while its upper end is contained within a bearing, *l*, which is formed at the intersection of two cross-bars, L, that are secured upon and extend diagonally between the upper ends of the posts A. The ends of the bridge-tree K are contained within corresponding vertical grooves *b* that are formed in the inner face of the contiguous rails B,

and are capable of movement vertically, so as to raise or lower the running-stone.

In order that the bridge-tree may be properly supported, and its ends rendered simultaneously adjustable vertically, the following described mechanism is employed: Secured to and extending vertically upward from the rails B, immediately above and slightly to one side of the grooves *b*, are two posts, M, near the upper end and upon the inner face of each of which is provided a lug, *m*, that extends horizontally inward and furnishes a bearing for a rod, N, which from thence extends vertically downward, and has its lower threaded end contained within a correspondingly-threaded opening in the bridge-tree K. Secured to or upon the upper end of each rod N is a worm-gear, O, which serves the double purpose of a collar for sustaining the weight of said rod and of the bridge-tree and millstone, and for revolving said screw. Journaled horizontally within suitable bearings formed in the upper ends of the posts M is a shaft, P, provided near each end with a worm, Q, which corresponds to and meshes with the contiguous worm-wheel O, and when said shaft is rotated, correspondingly moves said wheel and its rod N, and raises or lowers the bridge-tree and millstone. A small hand-wheel, R, attached to one end of the shaft P and provided upon its outer face with a handle, *r*, enables said shaft to be rotated at will.

As constructed, the horizontality of parts is preserved during the vertical adjustment of the bridge-tree and stone, while by the old method of effecting such adjustment by raising independently each end of said bridge-tree, the relative positions of said parts could not be insured.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

In combination with the bridge-tree K the threaded rods N, worm-gear O, shaft P, and worms Q, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of March, 1873.

ALEXANDER W. WINALL.

Witnesses:

C. D. ROBERTSON,
NELSON SAYLES.