

A. W. WINALL.

Devices for Adjusting Millstones.

No. 135,393.

Patented Jan. 28, 1873.

Fig. 1.

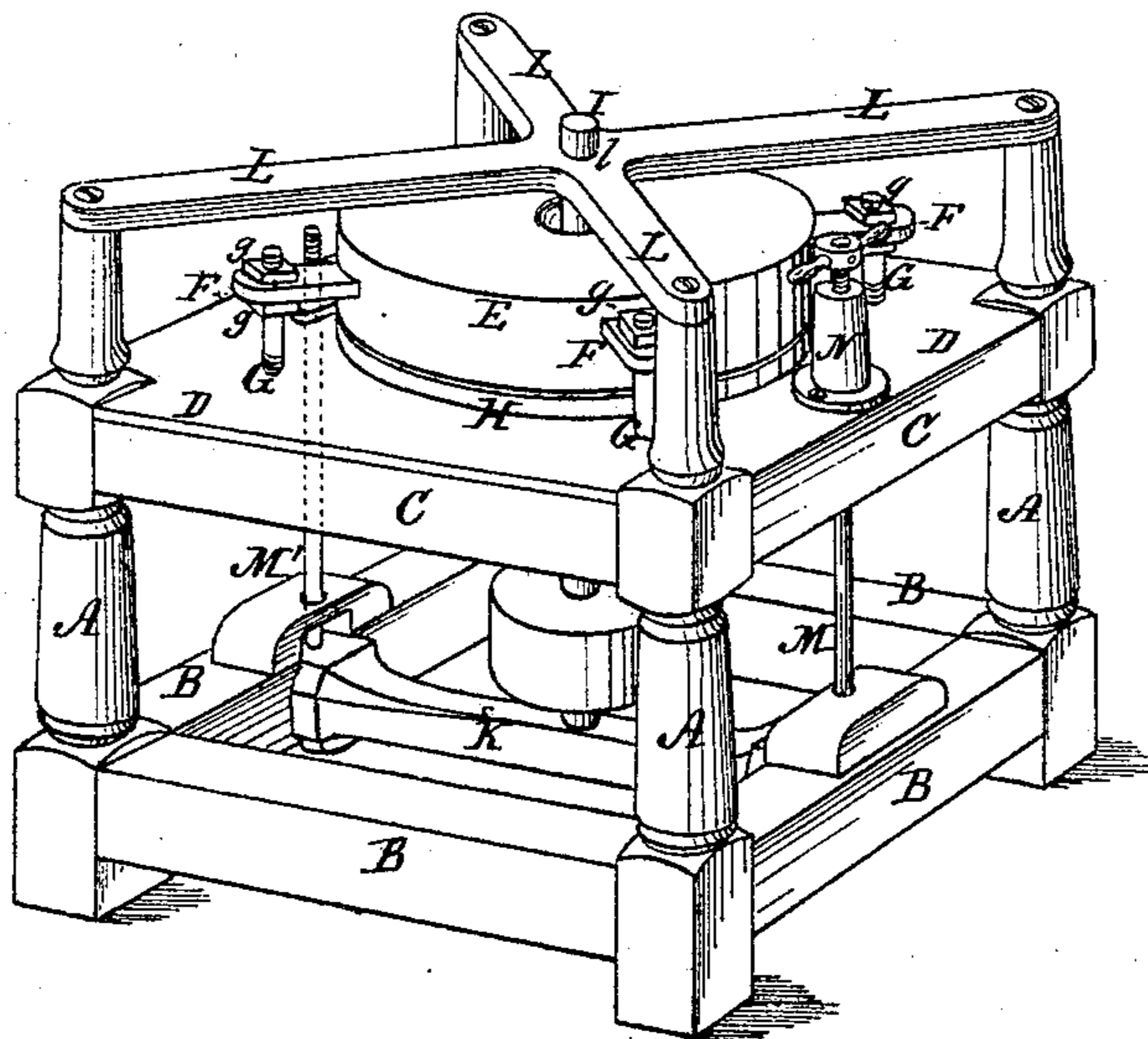


Fig. 2.

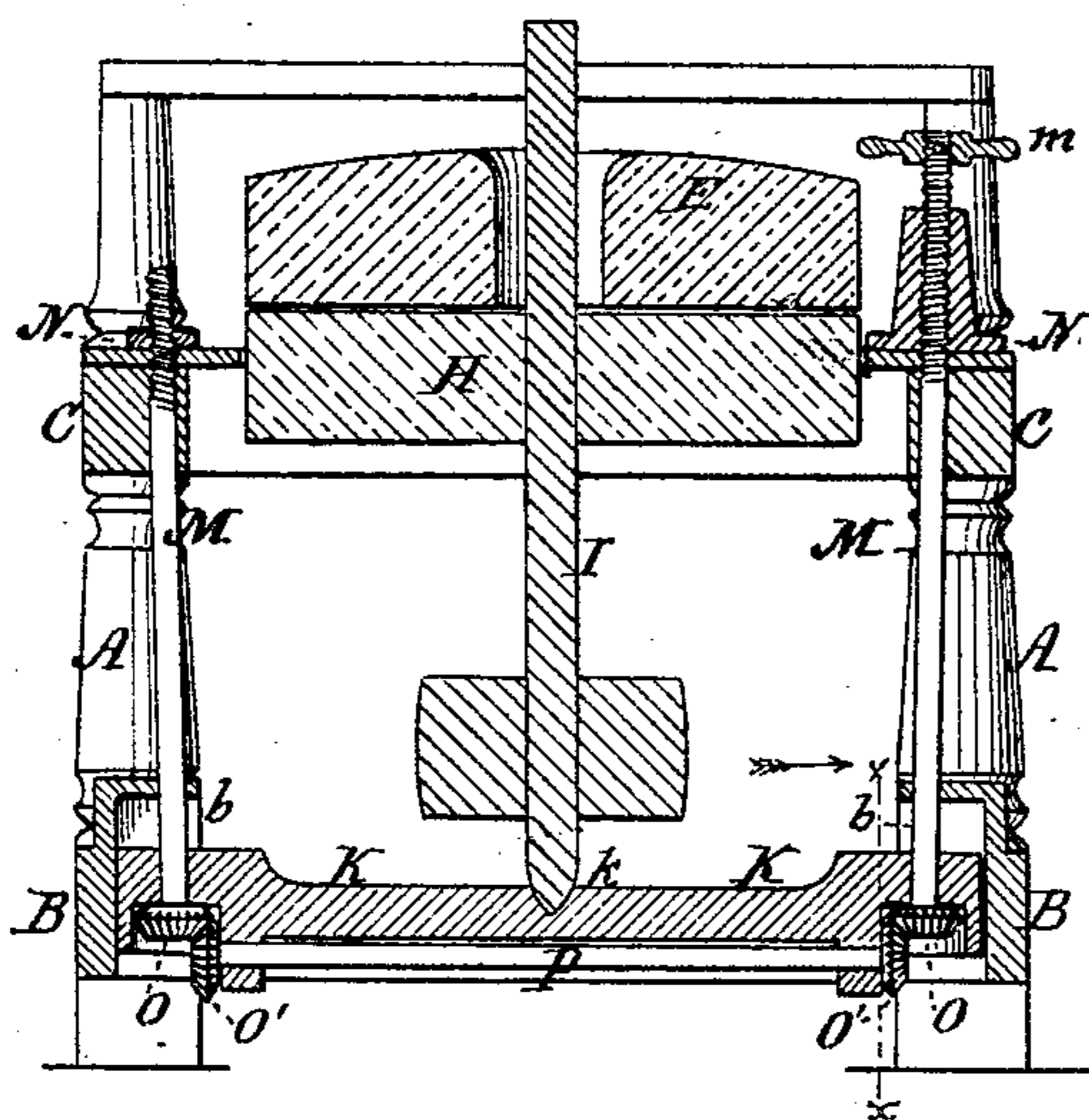
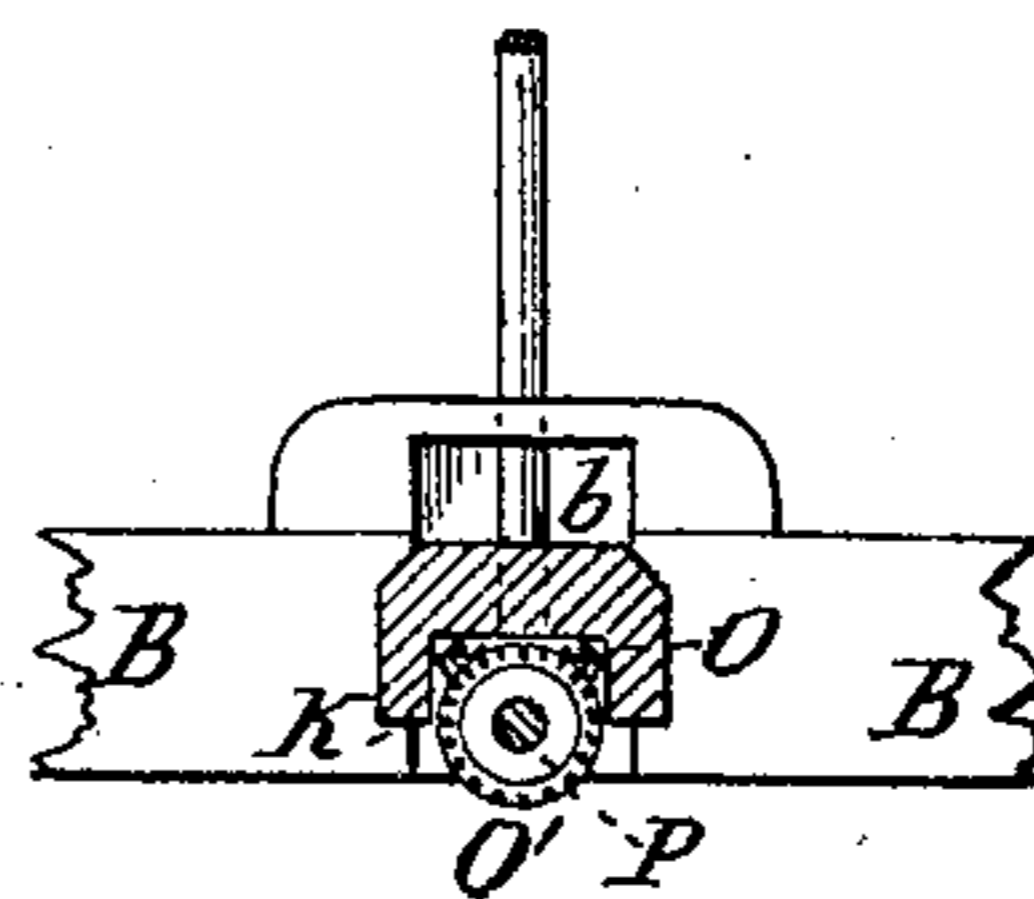


Fig. 3.



Witnesses

Edmund Masson

John R. Young.

Inventor:

A. W. Winall, by
Orinotte 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. **135,393**, dated January 28, 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.

The design of my invention is to render practicable the adjustment of millstones toward or from each other without change of the parallelism of their grinding-faces; and it consists, principally, in a bridge-tree, suspended at or by its ends, and the same made simultaneously adjustable toward or from the millstones, substantially as and for the purpose hereinafter specified.

It consists, further, in the means employed for suspending and adjusting the bridge-tree, substantially as and for the purpose hereinafter shown.

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: A rod, M, is swiveled at one end within each end of the bridge-tree; and from thence extending vertically upward is threaded and passes through a corresponding nut, N, that is secured to or upon the upper side of the rails C—the screw-threads upon said rods being the reverse of each other, or right and left hand. Upon the lower end of each rod M is secured a bevel or miter-pinion, O, which engages with a corresponding pinion, O', attached to the end of a shaft, P, that extends horizontally along or within the lower side of the bridge-tree, said shaft being journaled within suitable bearings so as to revolve freely. A handle, *m*, or other suitable device affixed to the upper extended end of one of the rods M, by means of which the same may be turned when desired, completes the device, the operation of which is as follows: By turning the handle *m* in either direction the rod M will be rotated within its nut, and the corresponding end of the bridge-tree raised or lowered by the direct action of said rod, while through the pinions O and O' and the shaft P a reverse movement of the opposite rod M will be produced; and, in consequence of the reverse turn of the screw-thread of the latter, a like and a simultaneous movement of its end of said bridge-tree will be effected.

As thus constructed the vertical adjustment of the bridge-tree and stone does not, in the slightest degree, change the horizontal positions of said parts, as would be the case were each end of said bridge-tree elevated or depressed by means of independent mechanism.

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

1. In a grinding-mill, a bridge-tree suspended at or by its ends, and the same made

simultaneously adjustable toward or from the millstones, substantially as and for the purpose specified.

2. In combination with the bridge-tree K, the threaded rods M, nuts N, bevel-pinions O and O', and the shaft P, substantially as and for the purpose shown.

In testimony that I claim the foregoing, I have hereunto set my hand this 18th day of January, 1873.

ALEXANDER W. WINALL.

Witnesses:

W. SHOWALTER,
MILTON SAYLER.