

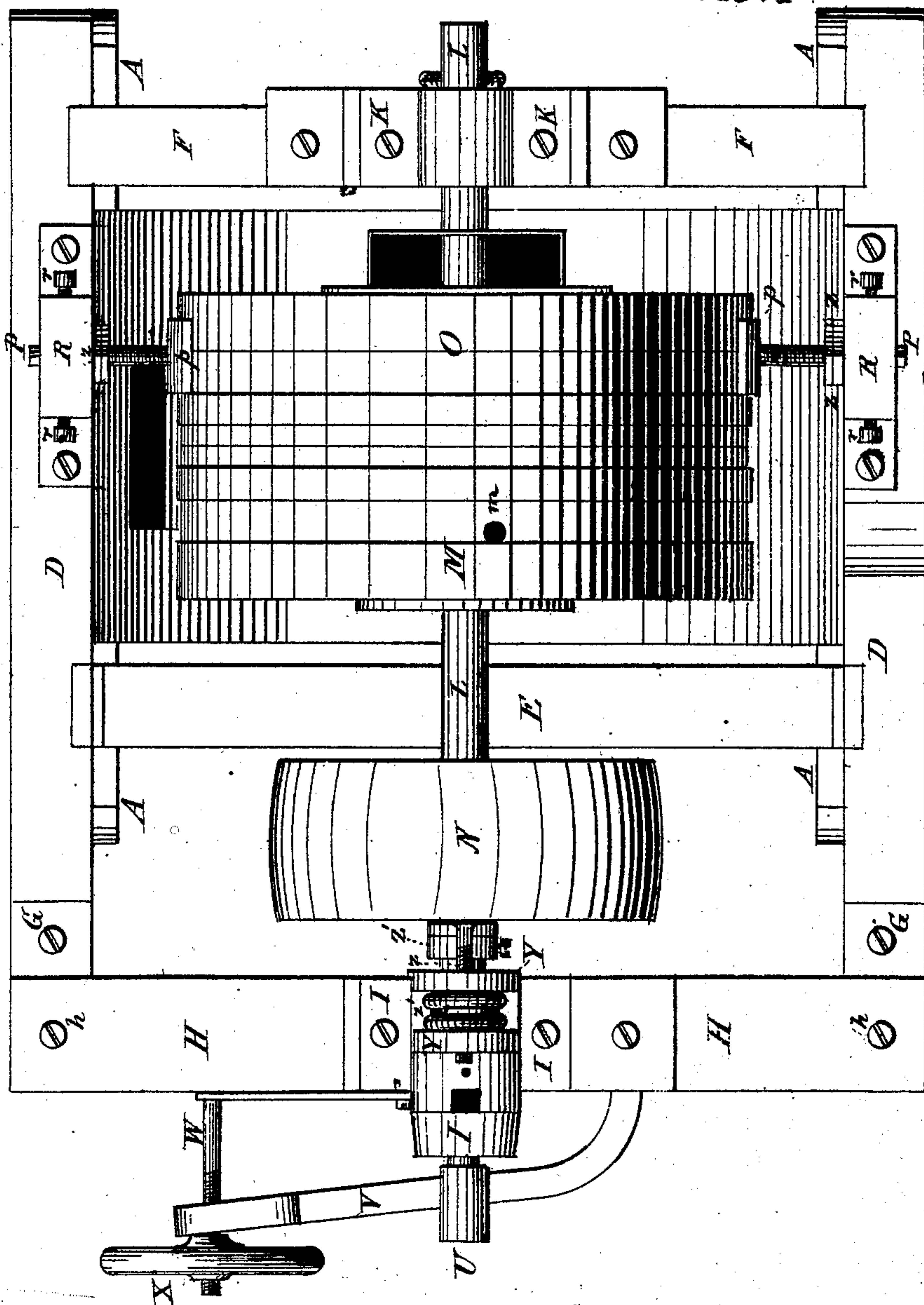
# Chas. Kaestner.

## Impt. in Grist Mills.

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Fig. 1.



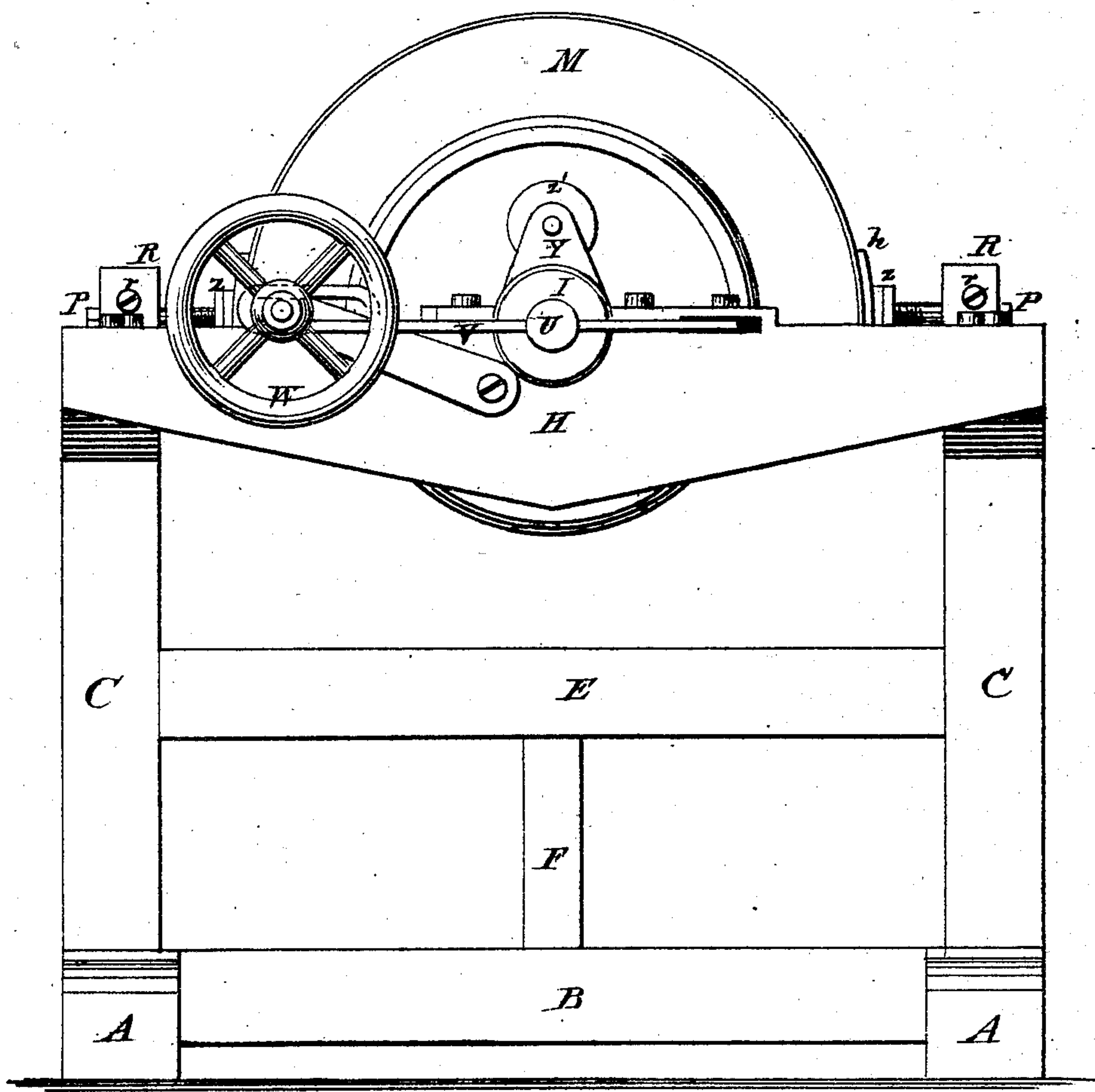
Witnesses  
*Alb. M. M.*  
*John B. Young*

Inventor.  
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Fig. 2.



Witnesses.

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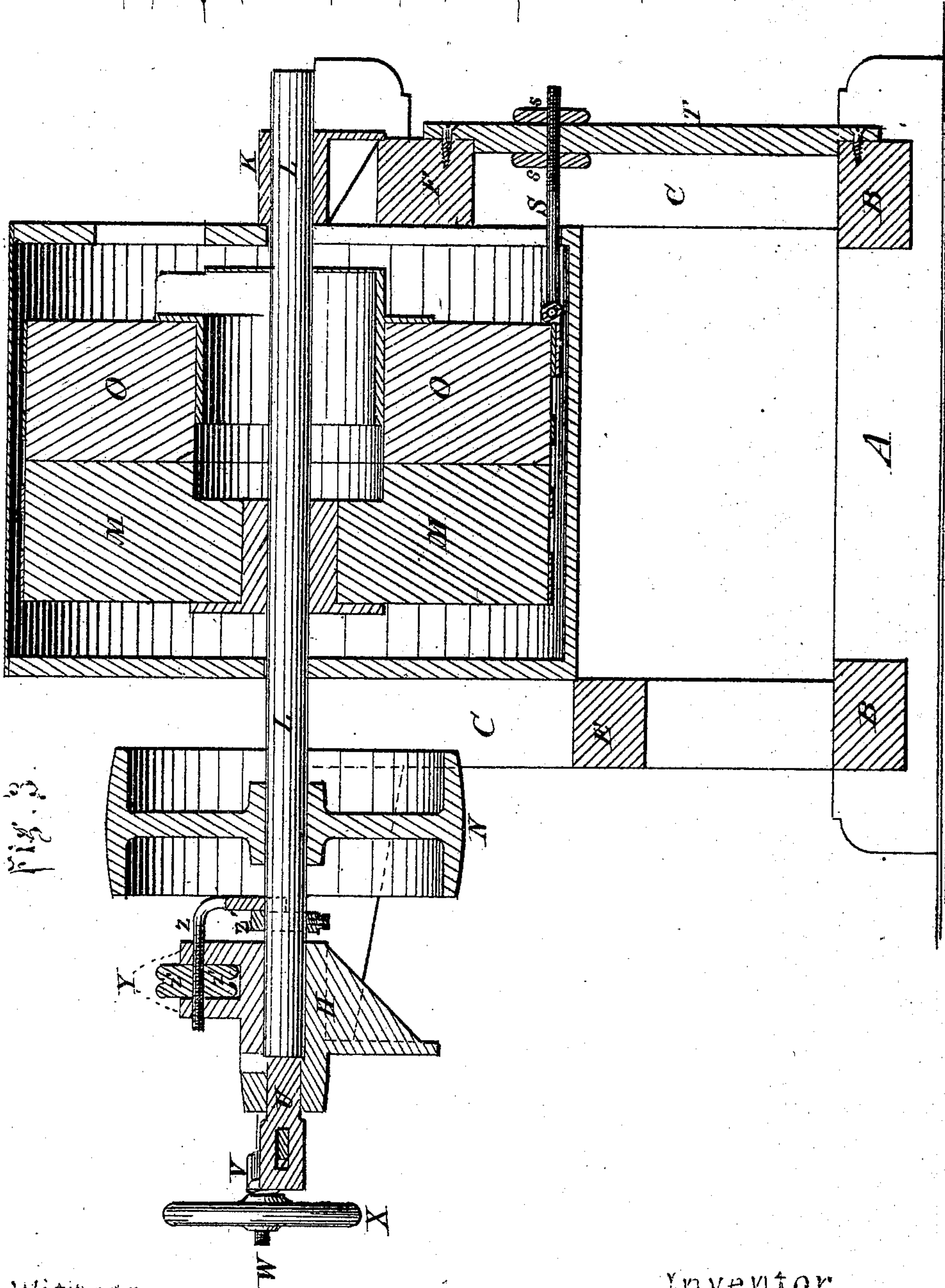
Inventor

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## Inpt. in Grist Mills.



Witnesses.

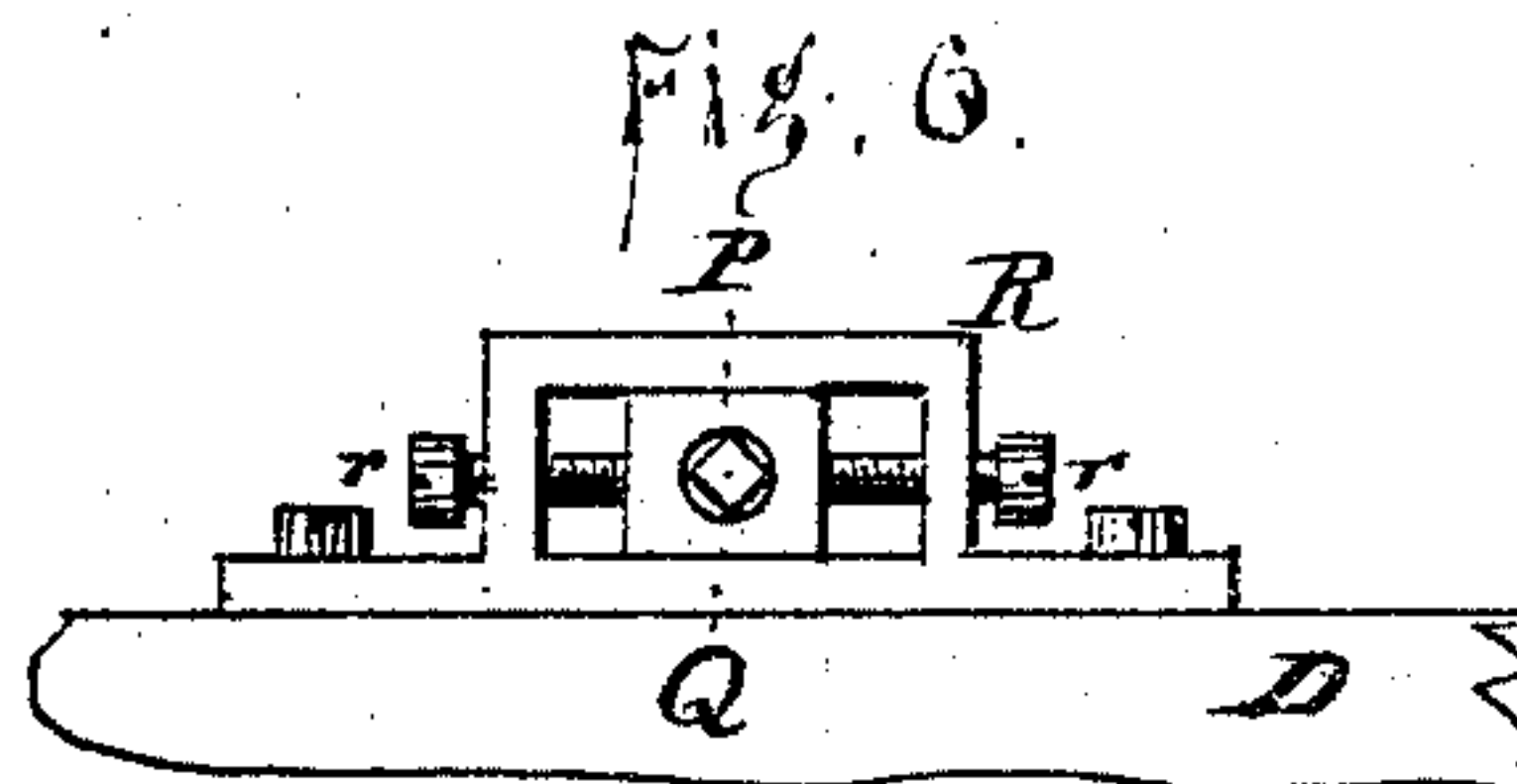
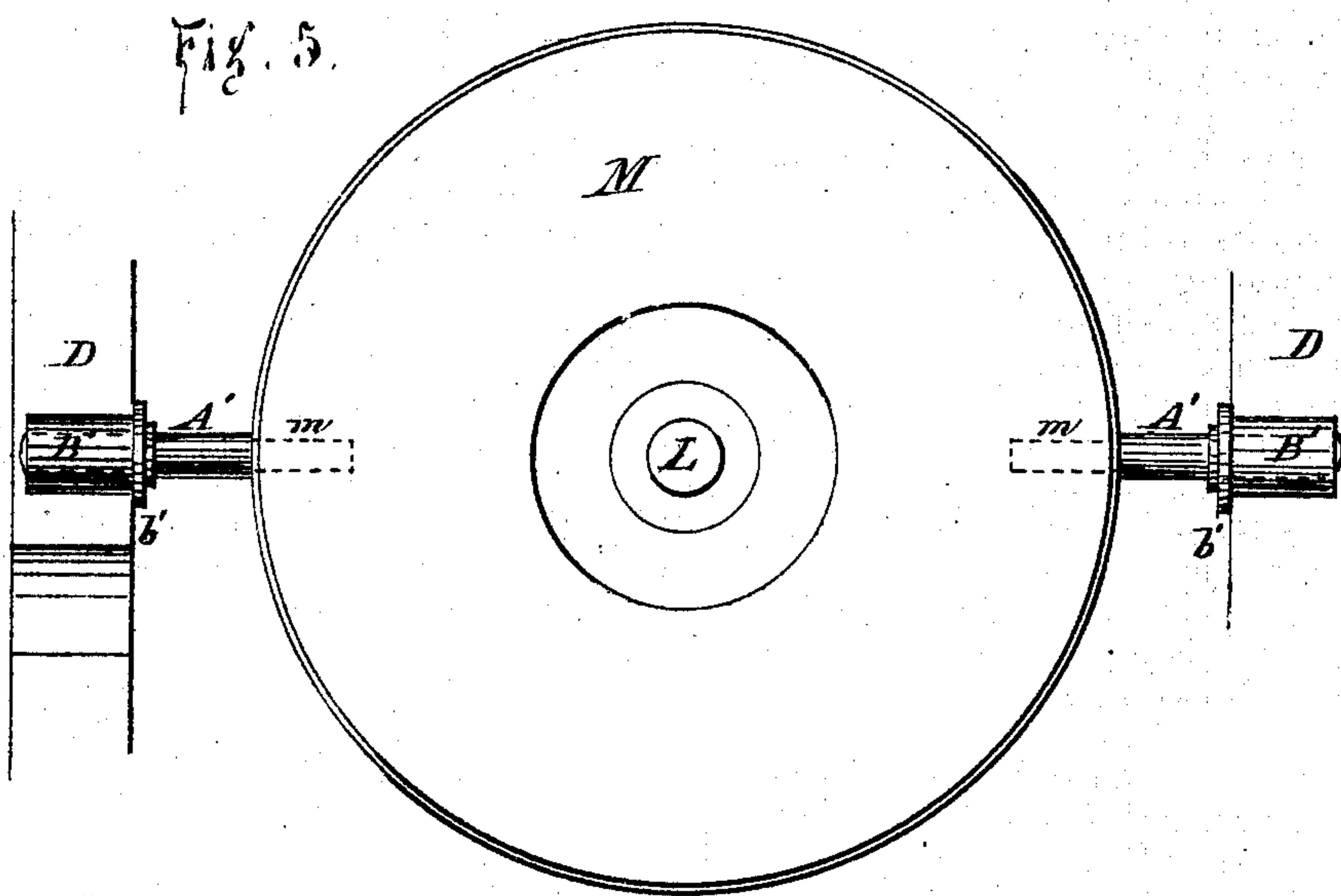
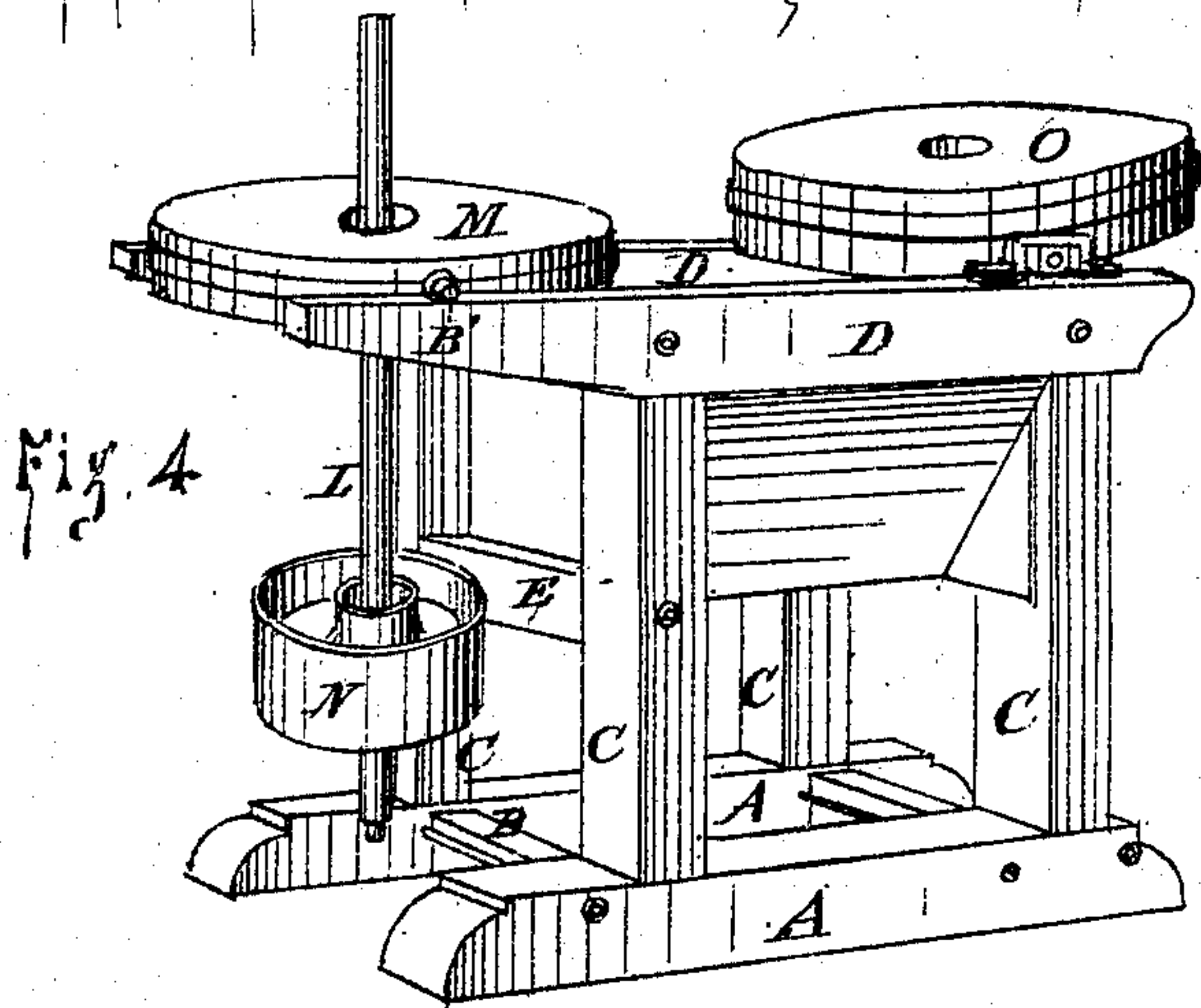
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# UNITED STATES PATENT OFFICE.

CHARLES KAESTNER, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN GRIST-MILLS.

Specification forming part of Letters Patent No. 116,717, dated July 4, 1871.

*To all whom it may concern:*

Be it known that I, CHARLES KAESTNER, of Chicago, in the county of Cook and in the State of Illinois, have invented certain new and useful Improvements in Grist-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 plan view of the upper side of my improved mill. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical central section on the lines *x x* of Figs. 1 and 2. Fig. 4 is a perspective view of said mill with the stones arranged in position for dressing. Fig. 5 is a plan view of the movable stone as thus arranged, and Fig. 6 is a side elevation of one of the pivotal bearings of the fixed or stationary stone.

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

My invention is an improvement in grinding-mills in which the stones revolve in vertical planes; and it consists, principally, in the means employed for sustaining the fixed stone and for adjusting the same to position, substantially as is hereinafter specified. It further consists in the means employed for pivoting the stones so as to permit the grinding-faces of the same to be turned upward in a horizontal plane, substantially as and for the purpose hereinafter set forth. It further consists in the means employed for adjusting the movable stone to or from the fixed stone, substantially as is hereinafter described.

In the annexed drawing, A and A represent two sills secured together in parallel lines by means of two cross-bars, B, placed at or near their ends. Extending vertically upward from points near each end of the sills A are four posts, C, each pair of which supports and is connected together by means of a rail, D, placed at its upper end and parallel with said sills, while by means of two cross-bars, E and F, extending in an opposite direction between said posts and rails, the same are firmly bound together; the whole thus connected forming the frame of the mill, and upon which its operating parts rest. As seen in Figs. 1 and 4, the rails D extend outward upon one side of the frame beyond the posts C, and have their ends shod with metal plates G, upon which rest the ends of a metal bar, H, that extends between said rails and is secured thereto

by means of suitable screws *h* passing downward through its ends into said plates. Resting within suitable boxes I and K, secured, respectively, upon the bar H and cross-bar F, is a shaft, L, to or upon which is attached the movable stone M and a driving-pulley, N, all of usual construction. The stationary stone O has secured to or upon opposite sides of its periphery metal plates *p*, from each of which extends horizontally outward a round metal stud, P, the outer end of which rests within a corresponding opening provided within a square metal block, Q, which block, in turn, rests within a housing, R, that is secured upon the upper side of the rail D, the whole thus arranged forming a pivotal support for said stone.

In order that the stationary stone may be adjusted horizontally so as to bring it into line with the movable stone, the openings within the housings for the reception of the blocks Q are extended horizontally in a line with the shaft L so as to permit said blocks to have a certain degree of movement therein. Two set-screws, *r*, passing horizontally through the sides of the housing, with their inner ends bearing against opposite sides of the block, furnish means whereby the same may be adjusted to and secured in position. The lateral adjustment of the stone is effected by threading each stud P between said stone and its housing, and employing thereon a set and a jam-nut, *z*, which, bearing against the inner face of said housing, prevents said stud and stone from moving outward in that direction. By turning the nuts outward upon their studs the latter and the stone will be pressed inward or away from the housing. In order to adjust the stone O vertically a bar, S, is hinged at one end to or upon the lower side of the same, and from thence extends horizontally outward through a brace, T, that is secured in a vertical position upon and extends between the cross-bars B and F. The outer end of said bar being threaded, and the same supplied upon opposite sides of the brace with suitable thumb-nuts *s*, said bar and the lower side of the stone may be readily drawn toward or pressed from said brace.

The adjustment of the movable stone M toward the fixed stone O is effected by means of a step, U, which, passing inward through the end of the box I, bears against the end of the spindle L, and is pressed against the same by



means of a lever, V, which is hinged at one end to or upon the bar H, and from thence extending through a suitable slot within the outer end of said step has its opposite end passed over a threaded stud, W, provided with a hand-wheel, X. As thus arranged it will be seen that if the wheel X be screwed inward upon its stud it will carry with it the free end of the lever V, and, through the same and the step, press the spindle L lengthwise within its bearings, and cause a corresponding movement inward of the movable stone; but as, when running loose or without grain, said stones are liable to come into contact so as to injure their faces, it is desirable that their relative positions should be insured regardless of the pressure or absence of grain. To accomplish this result two lugs or ears, Y, are formed upon and extend upward from the box I, and are provided with corresponding horizontal openings, through which a rod, Z, passes inward in a line with the spindle, and then downward with its lower end enlarged and forked so as to embrace the upperside of the same. The horizontal portion of said rod is threaded, and contains a thumb-nut, z, which is also contained within and loosely fills the space between the ears Y, so that, by revolving the same upon said rod, the latter will be moved longitudinally toward or from the stones. A collar, Z', placed upon and secured to the spindle immediately outside of the forked end of the rod Z, furnishes a bearing for the latter, so that when the same is drawn outward said collar and spindle will be correspondingly moved unless otherwise prevented.

The operation of these devices is as follows: The nut z is slackened so as to permit the movable stone to be adjusted to position toward the fixed stone, after which said nut is turned in an opposite direction until the forked end of the rod has a firm bearing against the collar, by which means all end play of the spindle is prevented and said movable stone caused to revolve in an unvarying plane.

The addition of the usual casing, hopper, &c., completes the mill, which is operated in the usual manner.

In order that the stones may be easily and quickly placed in horizontal position with their faces upward, when it becomes necessary to dress the same, the movable stone M is provided upon opposite sides of its periphery with suitable radial sockets m, within which may be inserted the inner ends of two studs, A', the outer ends of which extend over the rails D of the frame, and are each provided with a pivoted wheel or sleeve,

B'. A collar or flange, b', formed upon the inner end of each wheel, bears against the contiguous face of its rail and insures the relative positions of said rail and wheel. As thus constructed, in order to arrange the stone for dressing the casing is removed from the machine, the studs A' are placed in position within the stone, and the bar H removed, after which said stone and its spindle may be rolled forward upon the wheels B' until the rear end of said spindle is withdrawn from the fixed stone, when, by dropping downward the forward end of said spindle, the same and said stone will assume the position shown in Fig. 4, and remain suspended upon said studs and their wheels.

Having thus disposed of the movable stone, the fixed stone may be turned to a horizontal position by removing the outer nut s from the bar S, when the latter may be readily withdrawn from the brace T as the stone turns upon the studs P.

The advantages possessed by this construction and arrangement of parts are, that by it is secured the most perfect control of the mill, so as to enable one man without assistance to give to the same all necessary attention, while by the use of the adjusting mechanism the stones are preserved from injury and their durability largely increased.

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

1. The means employed for sustaining the fixed stone O and for adjusting the same to position, consisting of the studs P secured radially to or upon said stone, the blocks Q, the housings R provided with the set-screws r, and the hinged bar S provided with the nuts s and passing through the brace T, substantially as and for the purpose specified.

2. The studs A' provided with the wheels B', and the studs P pivoted within the blocks Q, in combination with the stones M and O and with the rails D, substantially as and for the purpose shown.

3. In combination with the step U, lever V, stud W, and wheel X, the clutch-rod Z caused to embrace the spindle L and resting within the ears Y, the collar Z', and the nuts z, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of May, 1871.

CHARLES KAESTNER.

Witnesses:

C. J. CORSE,  
CHAS. COLAHAN.