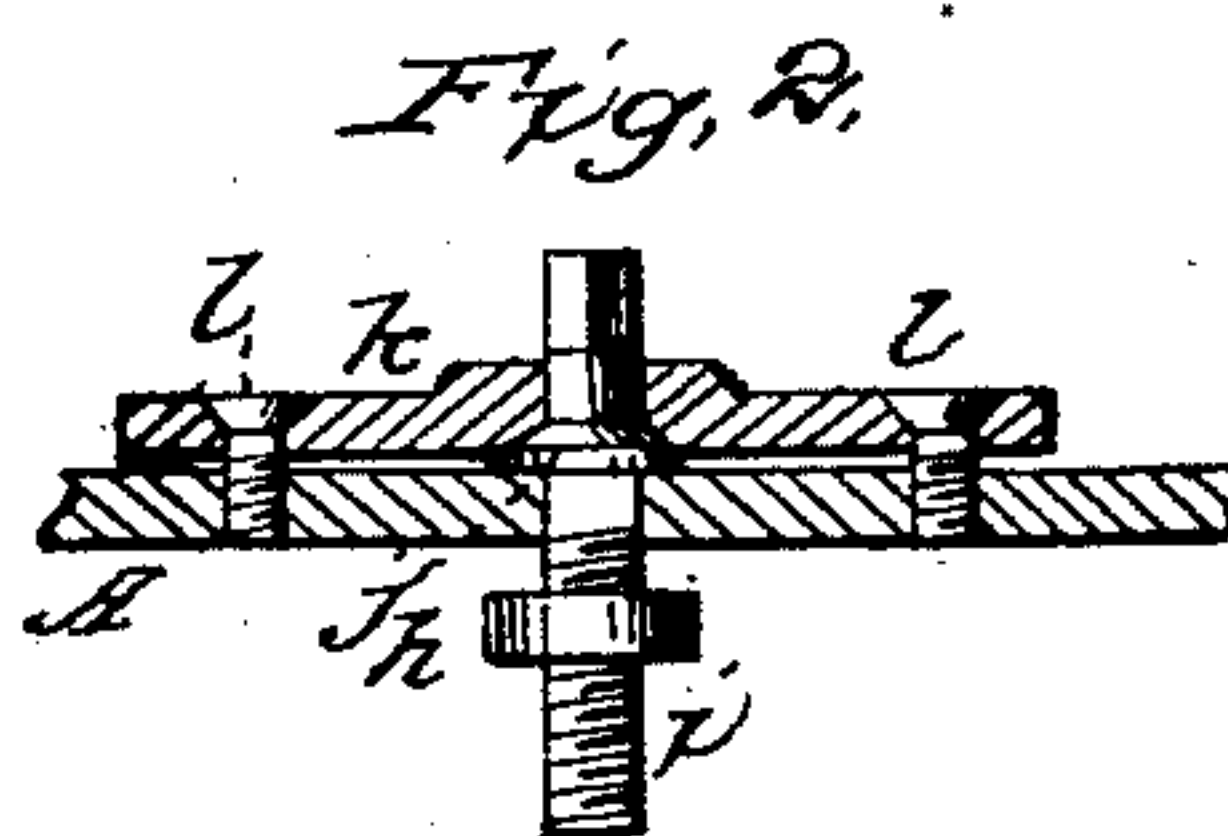
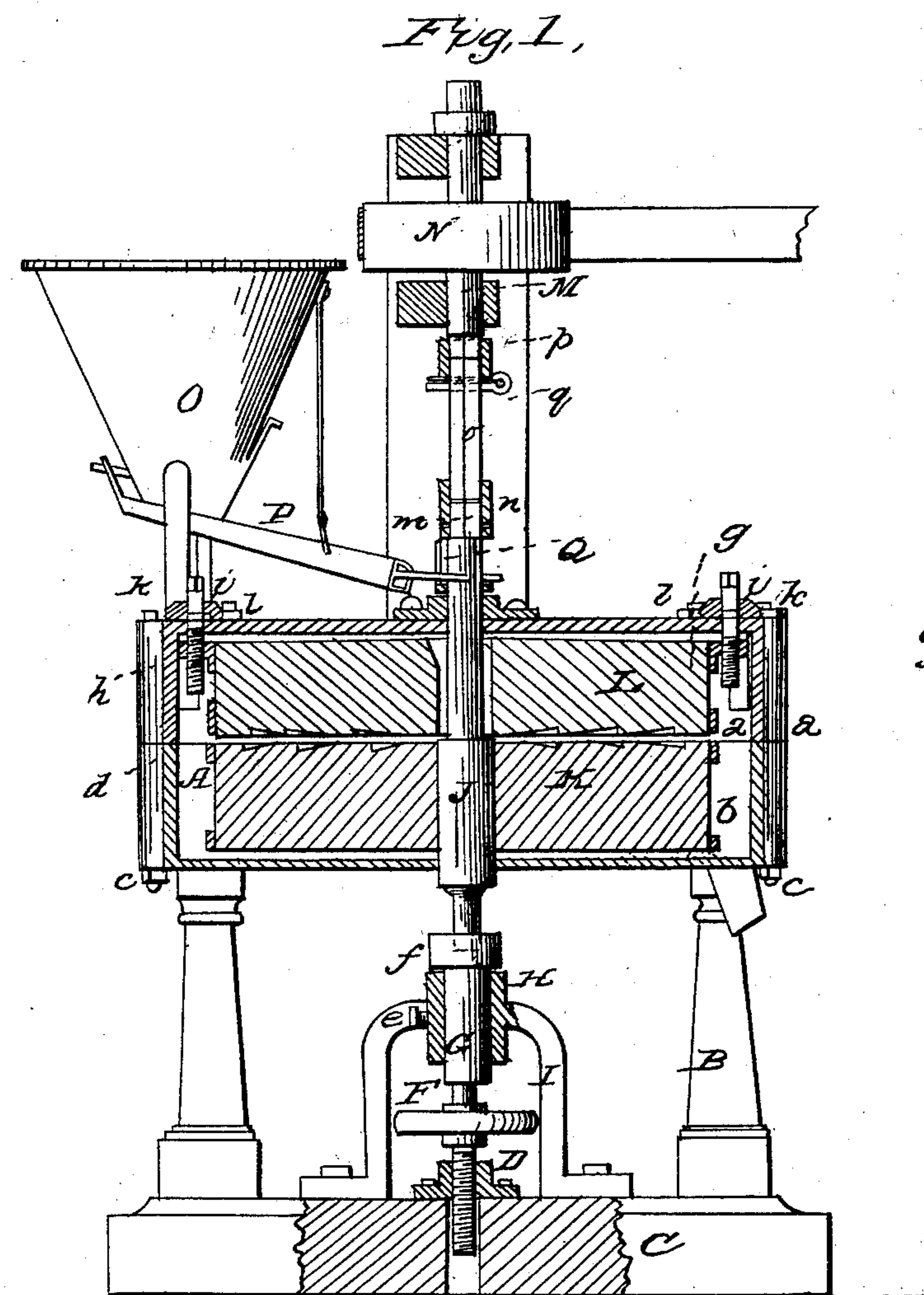


F. OLDS.
Grinding Mill.

No. 18,985.

Patented Dec. 29, 1857.



UNITED STATES PATENT OFFICE.

FRANKLIN OLDS, OF PROVIDENCE, RHODE ISLAND.

GRINDING-MILL.

Specification of Letters Patent No. 18,985, dated December 29, 1857.

To all whom it may concern:

Be it known that I, FRANKLIN OLDS, of Providence, in the county of Providence and State of Rhode Island, have invented
5 certain new and useful Improvements in Grinding-Mills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of
10 this specification, in which—

Figure 1 is a vertical section of my improvement. Fig. 2 is a section showing the means employed for securing the screw rods or preventing them from turning.

15 This invention consists of a new article of manufacture, viz. a grinding mill, made substantially as hereinafter described.

To enable those skilled in the art to fully understand and construct my invention, I
20 will proceed to describe it.

A represents a cast iron curb or casing of cylindrical form and supported by a framing B arranged in any proper manner. The curb or casing A is formed of two parts (a),
25 (b), connected together by screw bolts (c), which pass through ears or vertical tubular projections (d) at the outer side of the curb.

To the center of the base C of the framing B, a nut D is attached, and a screw E is fitted
30 in said nut. The screw E has a hand wheel F on its upper part, and a step G rests upon the upper end of the screw. The step G is of cylindrical form and is fitted in a socket H, which is at the upper part of a bow-shaped support I attached to the base. The
35 step G is allowed to work up and down in the socket H, but is prevented from turning therein by a screw (e), the end of which fits in a vertical groove in the step. The upper
40 end of the step also has a shoulder (f) formed on it to prevent its descending below a certain distance within the socket.

J represents a spindle, the lower end of which is fitted in the step G. This spindle
45 passes up through the center of the curb A and projects a short distance above its upper surface.

K represents the lower stone or runner which is attached to the spindle J. The
50 stone K is placed in the lower part (b) of the curb.

L is the upper or stationary stone which is secured within the upper part (a) of the curb. The stone L, has an iron band (g)
55 around its upper end, and projecting bars (h) are attached to said band. Through the

projecting bars (h) screw rods (i) pass, the rods passing through the top plate of the curb A. The upper ends of the screw rods (i) have squares formed on them to receive
60 a wrench, and a flanch (j) is also formed on each rod just below the square. The upper surfaces of the flanches (j) are of conical form, and a plate (k) is fitted over each flanch, said plates having a screw bolt (l)
65 passing through each end and into the top of the curb A. The plates (k) are employed to prevent the casual turning of the screw rods (i), which is effected by screwing the plates (k) down so that they will bear with
70 a requisite degree of pressure on the conical flanches (j), see more particularly Fig. 2. Four screw rods (i) may be employed.

The upper end of the spindle J has a square (m) formed on it, and a sleeve (n)
75 is fitted on said square. The lower end of a square shaft (o) is fitted within the upper part of the sleeve (n), and the upper end of the shaft (o) is fitted within a sleeve (p) which is also fitted on the lower end of a
80 vertical shaft M which is fitted in a proper framing. The sleeve (p) is retained on the ends of the two shafts M, (o) by a pin (q) which passes transversely through the shaft (o). The shaft M is the driving shaft, and
85 a pulley N is placed thereon.

O is the hopper and P is a shoe placed below it, said shoe conducting the grain to the orifice through the center of the upper stone L. A damsel Q is placed on the upper
90 part of the spindle J, said damsel giving the shake motion to the shoe.

From the above description of parts it will be seen that the spindle J will not be subjected to any lateral pressure and consequently much friction is avoided thereby.
95 In the usual mills the spindle is driven directly from shafting either by belts or gearing, and the spindle is consequently subjected to a lateral pressure and much friction is created in the bearings of the spindle.
100 In my improvement, the power or driving shaft being connected to the spindle by means of the shaft (o) the rotary motion is communicated to the spindle but not the
105 lateral pressure.

The parallelism of the two stones may be preserved with the greatest facility, the adjustment of the screw rods (i) being only required. This is an important feature of
110 the invention for good work cannot be done unless the stones are parallel.

The lower stone may be raised and lowered so that the stones may grind finer or coarser by merely turning the hand wheel F, and as the step G is raised and lowered in a vertical line, the stone K will be raised and lowered in a perfectly vertical position. In the usual or old mills the spindles were stepped in bridge trees or levers which were raised and lowered at one end. By this means the spindles were thrown out of line at every adjustment of the stones. This difficulty has been partially obviated by having the steps of the spindles set in swivels or universal joints but these devices are not generally used, on account of their complexity, and liability to get out of repair and the expense attending their construction.

I do not claim to be the first inventor of mills in which the upper stone was made adjustable. But so far as I am aware, no grinding mill has ever been made in which the upper stone is held and adjusted in the manner described by me. Nor has any mill been made which contained the several other features of novelty which I have set forth.

Therefore having thus described my invention, I claim and desire to secure by Letters Patent, as a new article of manufacture,

A grinding-mill, made substantially as herein set forth.

FRANKLIN OLDS.

Witnesses:

ALBERT R. BRIGGS,
S. B. JOHNSON.