

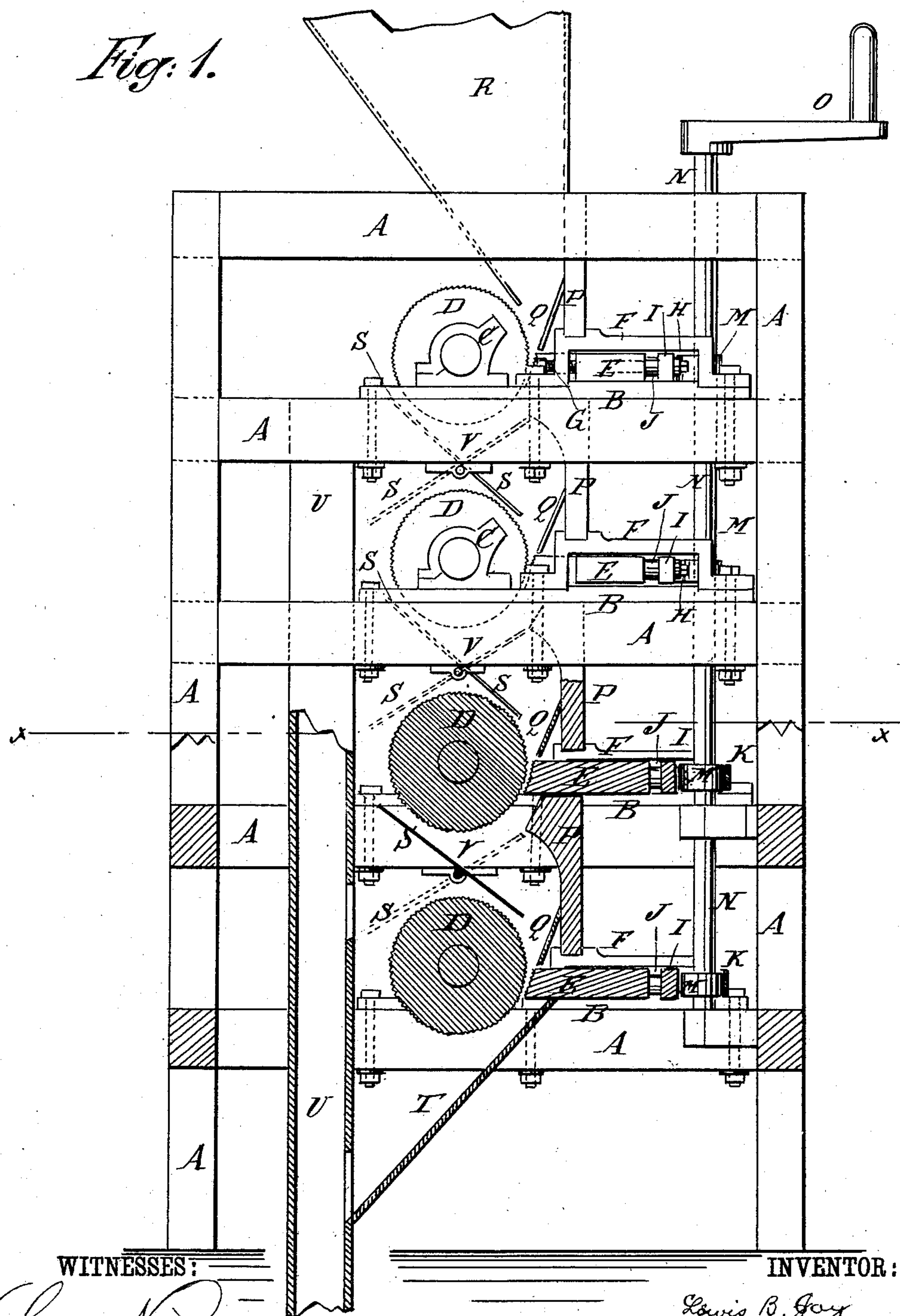
(No Model.)

2 Sheets—Sheet 1.

L. B. JOY.
GRINDING MILL.

No. 338,416.

Patented Mar. 23, 1886.



WITNESSES:

Chas. Nida
Jno. Mathew Ritter

INVENTOR:

Lewis B. Gay
BY Munn & Co
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 2.

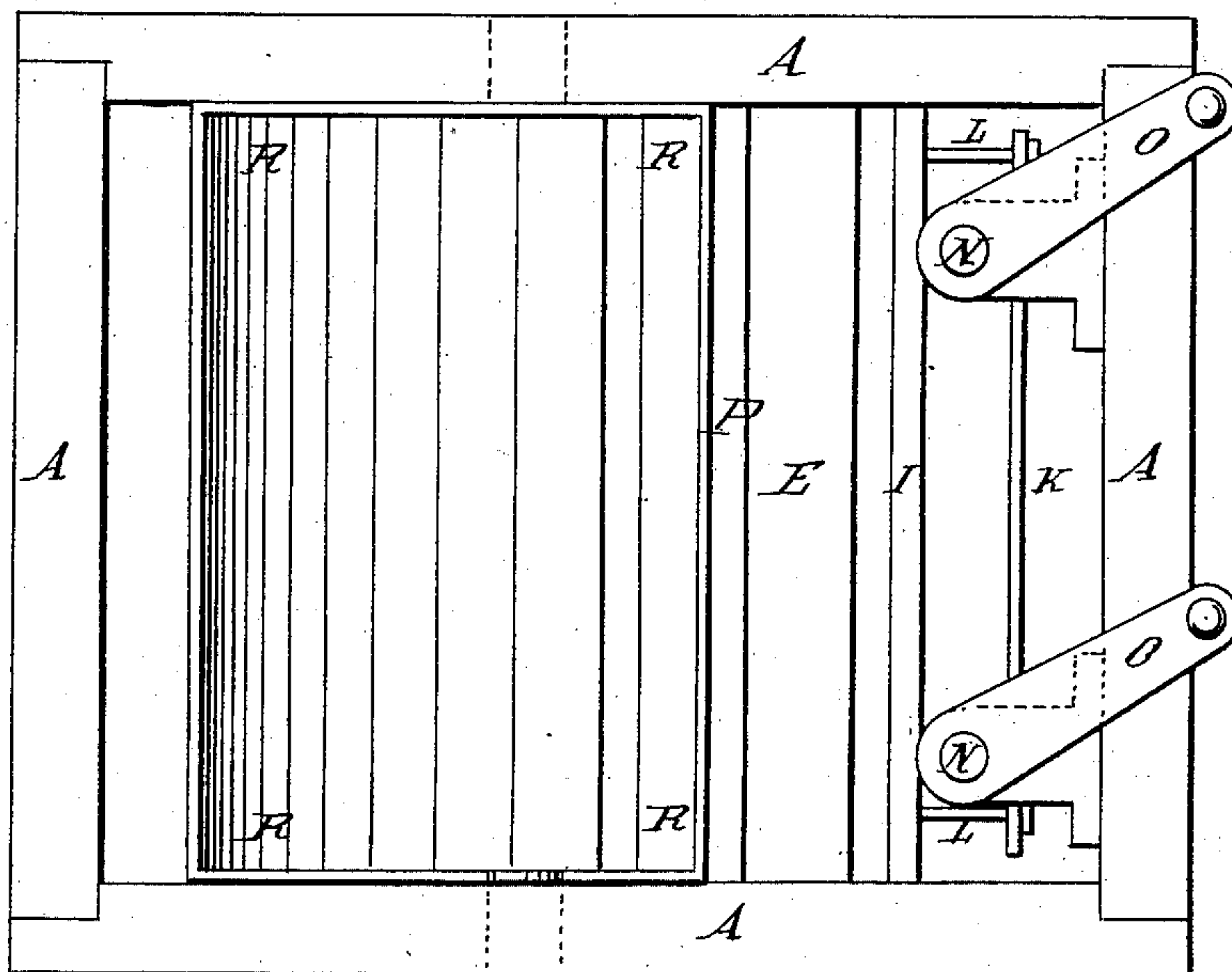
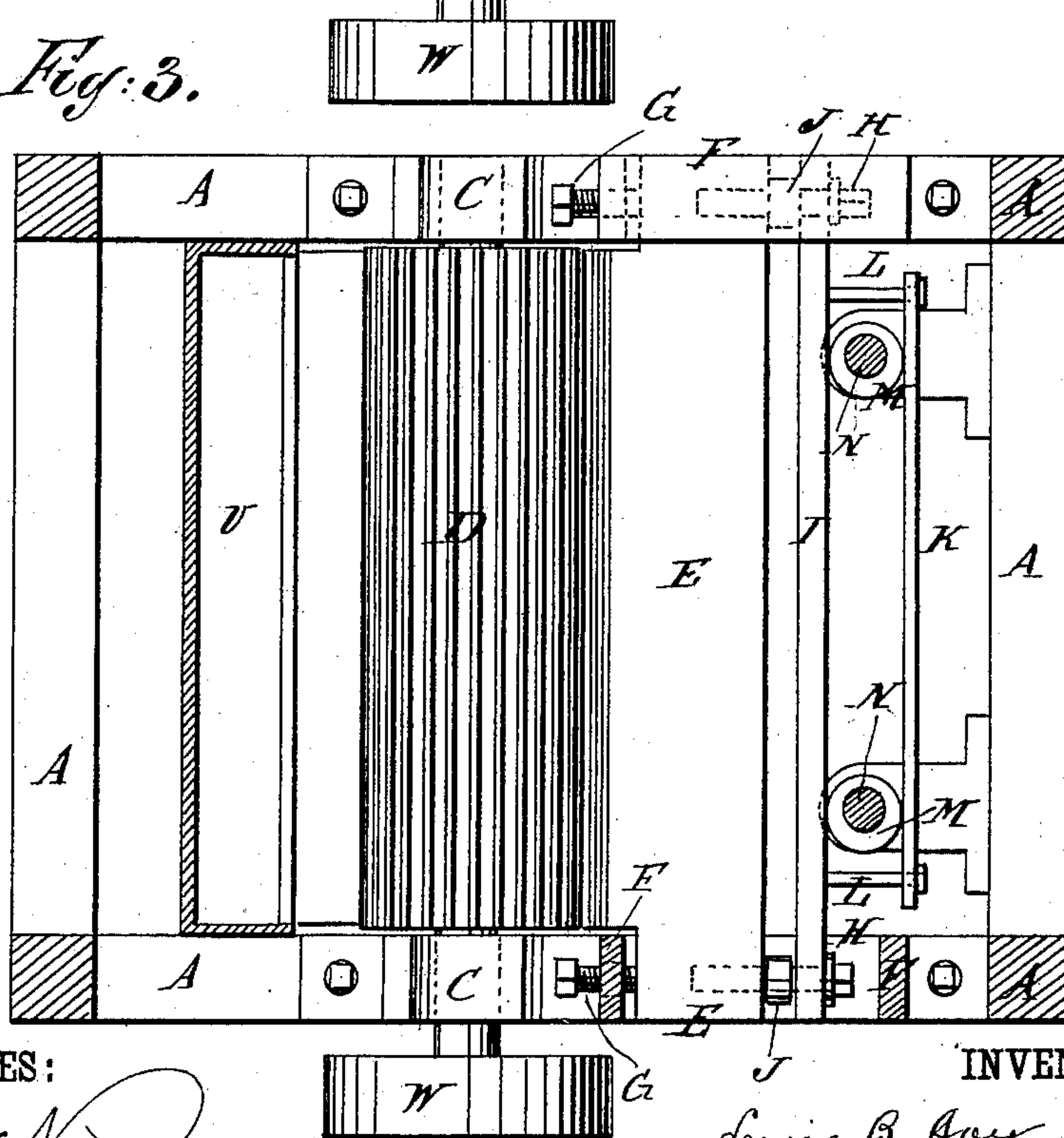


Fig: 3.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

LEWIS B. JOY, OF BATH, NEW YORK.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 338,416, dated March 23, 1886.

Application filed July 21, 1885. Serial No. 172,207. (No model.)

To all whom it may concern:

Be it known that I, LEWIS B. JOY, of Bath, in the county of Steuben and State of New York, have invented certain new and useful
5 Improvements in Grinding-Mills, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification,
10 in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, of one of my improved grinding-mills. Fig. 2 is a plan view of the same. Fig. 3 is a sectional plan view of the same, taken through
15 the line *x x*, Fig. 1.

The especial object of this invention is to provide mills for grinding mixed grains for feed, but which can be used with advantage
20 for grinding grain for other purposes, and for grinding other materials, and which is constructed in such a manner that it can be readily adjusted and controlled.

The invention consists in the construction
25 and combinations of various parts of the grinding-mill, as will be hereinafter fully described, and then pointed out in the claims.

A represents an upright frame, to the horizontal bars of which is bolted one or more
30 iron bed plates or frames, B.

To the rear part of the bed plate or frame B are secured bearings C, in which revolve the journals or an iron roller, D. The face of the
35 roller D is corrugated longitudinally or in any other suitable manner to form an effective grinding-surface.

Upon the bed plate or frame B in front of the roller D is placed an iron plate, E, the edge of which next the said roller D is beveled,
40 as shown in Figs. 1 and 3, and is corrugated longitudinally or in any other suitable manner to form an effective grinding-surface. The grinding-plate E is held down to its seat by bars F, placed upon the upper sides of its ends, and
45 the ends of which are bent downward and outward and are bolted to the bed plate or frame B. The inner corners of the grinding-plate E are cut away, as shown in Fig. 3, to allow the said plate to be moved so far forward as to
50 bring its beveled and corrugated edge sufficiently near to the face of the roller D. The edge of the plate E is kept from coming in

contact with the face of the roller D, and its distance therefrom is regulated by set-screws G, which pass through the inner arms of the
55 guard-bars F and rest against the shoulders of the recessed ends of the said plate E.

To the outer edge of the grinding-plate E is secured by screws or studs H a bar, I, which is kept at the proper distance from the said
60 plate E by nuts or washers J, placed upon the screws or studs H between the said plate and bar.

K is a bar placed parallel with the outer side of the bar I and connected therewith by
55 screws L, and between which and the said bar K are eccentrics M, placed upon and keyed or otherwise secured to vertical shafts N. The vertical shafts N revolve in bearings attached to the frame A, and to the upper ends of the said
70 shafts are attached cranks O, or other handles, so that the grinding-plate E can be moved from and toward the roller D by turning the shafts N and eccentrics M.

The space above the middle and outer parts
75 of the grinding-plate E is separated from the space around the upper part of the grinding-roller D by a partition, P, the lower edge of which rests upon the guard-bars F, and to the inner side of the lower part of which is at-
80 tached the upper edge of an inclined apron, Q, to guide the material falling upon it into the space between the beveled edge of the plate E and the face of the roller D.

One, two, or more sets of rollers, D, and
85 grinding-plates E and their appliances can be placed one directly above the other and secured to the frame A.

The drawings represent four sets of rollers and plates as attached to the frame A, and
90 this number is considered best for grinding mixed grains for feed, each lower plate, E, being set a little nearer its roller D than the plate next above it.

The material to be ground is fed into the
95 mill through a hopper, R, into the space between the upper part of the roller D and the apron Q. As the ground material passes out from between the roller D and the beveled edge of the plate E it falls upon the inclined
100 apron S, by which it is guided into the space between the next lower roller and its grinding-plate. As the material falls from the lowest roller and its grinding-plate it falls upon the

inclined plate T, from the lower edge of which it falls into the spout U, and is conducted to any desired receiver.

The inclined aprons S are all attached to shafts V, journaled to the frame A, so that by turning any of the shafts, by means of a handle attached to one of its ends, the inclined apron can be turned into the position indicated by dotted lines in Fig. 1, to guide the material into the spout U, so that the material can be cut off at any desired point of its passage through the mill.

To the journals of the rollers D are attached pulleys W, to receive belts, so that the said rollers can be driven from any convenient power.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a grinding-mill, the combination, with the frame A and the bed-plate B, of the grinding-plate E, the frame F for holding said plate, the bars I K, the shafts N, and the eccentrics M on said shafts between the said bars I K, substantially as herein shown and described.

2. In a grinding-mill, the combination, with the frame A, the bed-plate B, the roller D, having a corrugated face, and the grinding-plate E, having a beveled and corrugated inner edge, of the frames F for holding the said plate to its seat, the set-screws G for limiting the inward movement of the grinding-plate,

the eccentrics M, shafts N, and the bars and screws I K H L for connecting the said eccentrics and grinding-plate, substantially as herein shown and described, whereby the said grinding-plate can be readily adjusted, as set forth.

3. In a grinding-mill, the combination, with the frame A, the rollers D, having corrugated faces, the grinding-plates E, having beveled and corrugated inner edges, the discharge-spout U, and the stationary guide-aprons Q, of the shafts V, and the guide-plates S, pivoted on the said shafts at about the middle of their length, substantially as herein shown and described, whereby the material passing through the mill can be guided into the discharge-spout at any desired point, as set forth.

4. A grinding-mill consisting of a series of pairs of grinding-surfaces arranged one above the other, one of the said surfaces of each pair being adjustable, a discharge-spout extending in front of the series of grinding-surfaces, stationary aprons, and movable guide-plates for guiding the material, the said guide-plates being pivoted at about the middle of their length to permit the material to be guided to the grinding-surfaces below or to the discharge-spout, as set forth.

LEWIS B. JOY.

Witnesses:

CHAS. A. CLARKE,
WILLIAM W. ALLEN.