

E. RIPLEY.  
Grinding Mill.

No. 17,116.

Patented April 21, 1857.

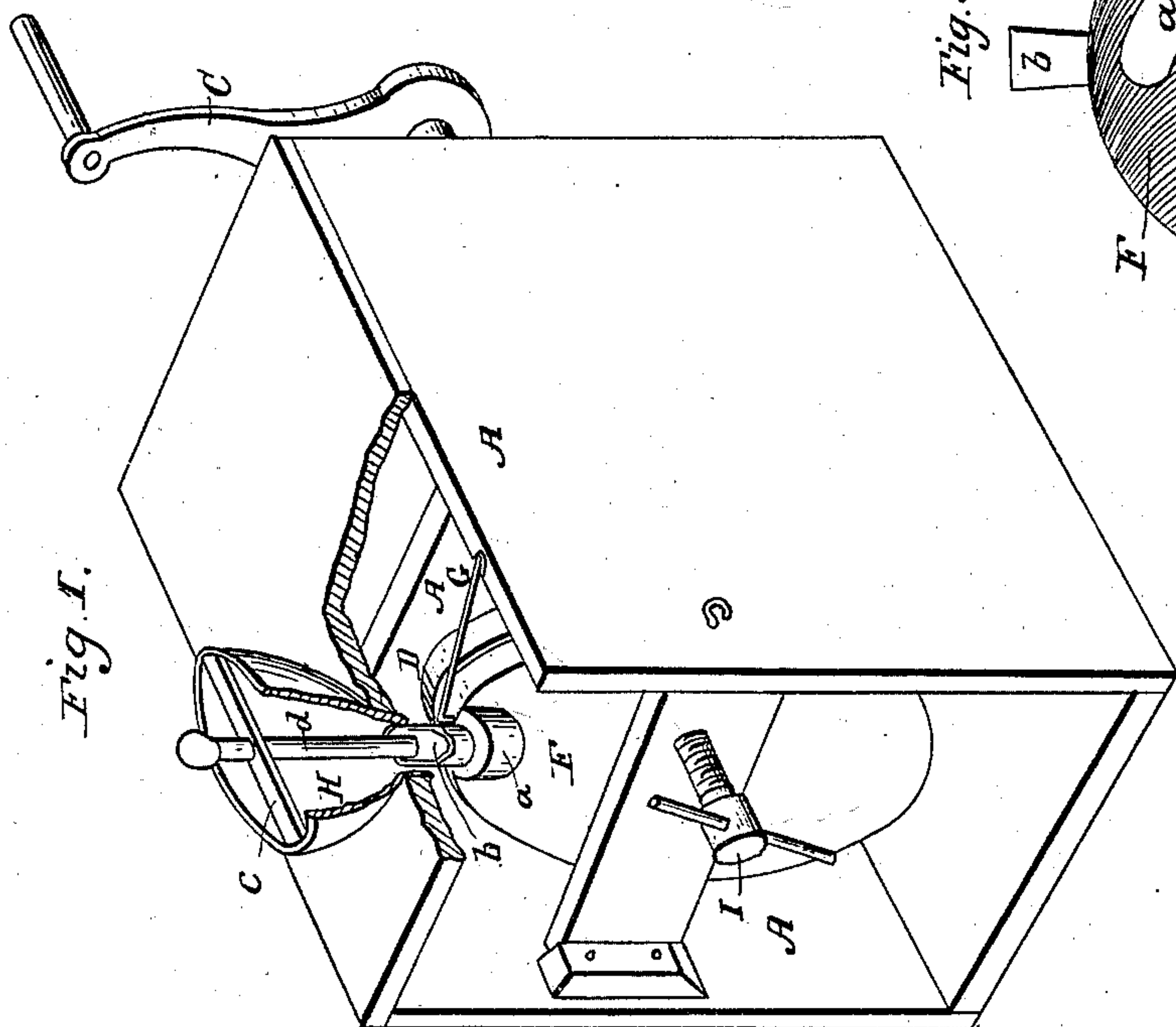
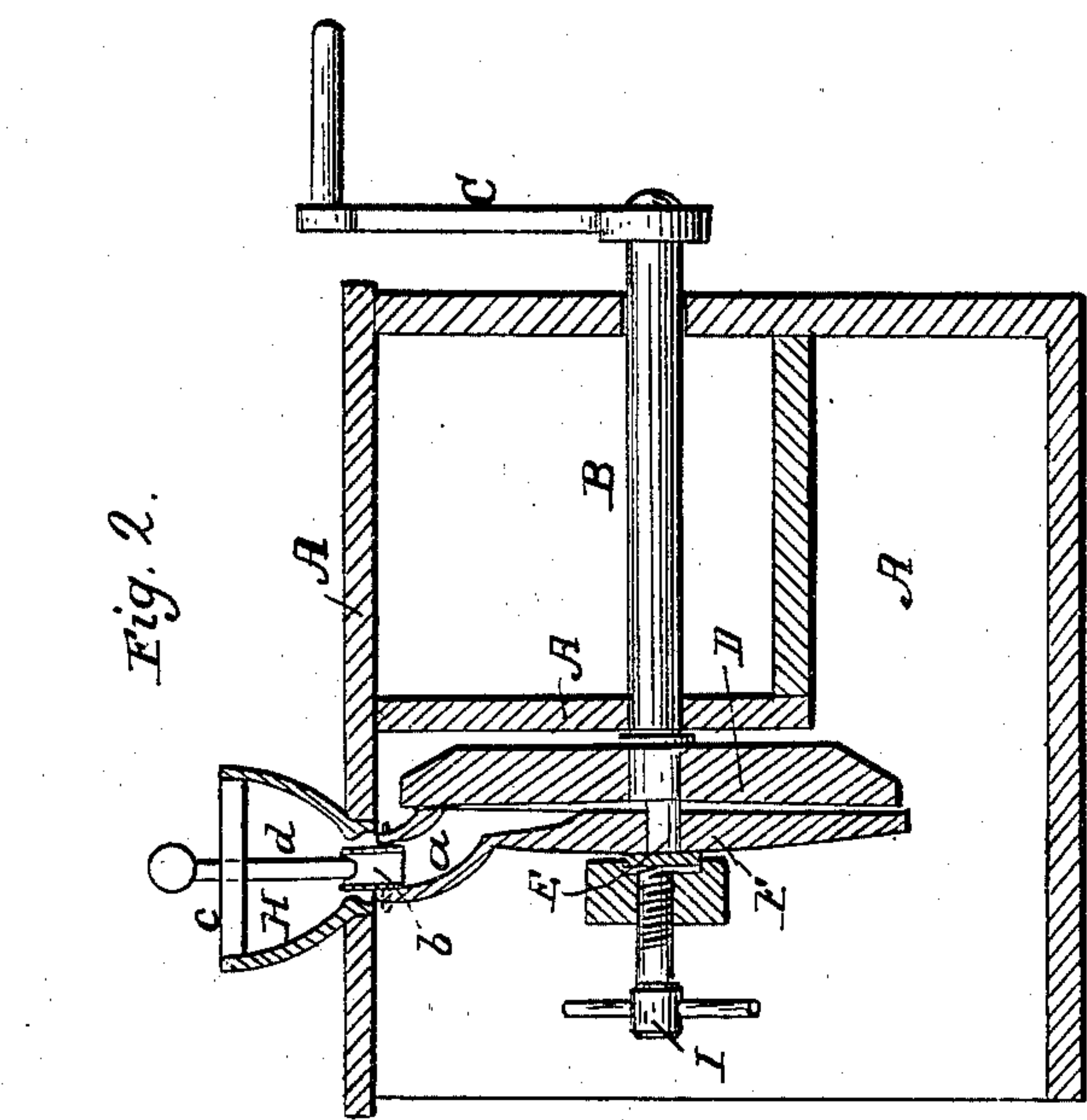
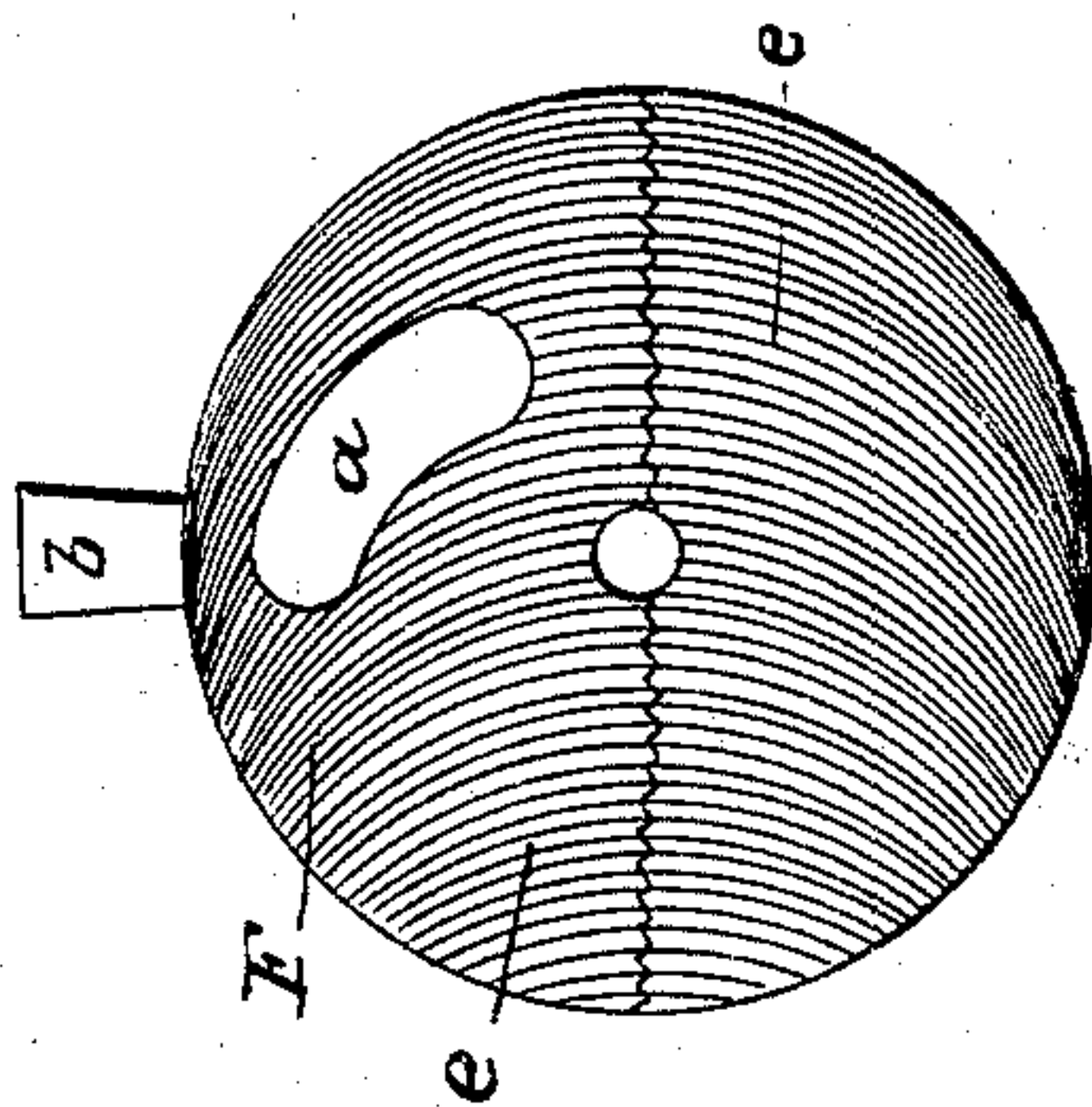


Fig. 3.



# UNITED STATES PATENT OFFICE.

E. RIPLEY, OF TROY, NEW YORK.

## GRINDING-MILL.

Specification of Letters Patent No. 17,116, dated April 21, 1857.

*To all whom it may concern:*

Be it known that I, EZRA RIPLEY, of Troy, in the county of Rensselaer and State of New York, have invented 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 this specification, in which—

Figure 1, is a perspective view of the mill, Fig. 2 is a longitudinal vertical sectional view through the center of the mill, the same letters having reference to like parts in each of the figures.

My improvement relates to those mills in which the grinding is performed wholly or in part, by or between plates or flat grinding surfaces;—one of the grinding plates being constantly revolved.

The construction of my improved grinding mill is as follows:

A A is the frame work.

B is the mill shaft.

C is a crank for turning the mill; for a power mill a belt pulley is to be substituted.

D is a continuous rotating grinding plate, secured firmly upon the mill shaft.

E is an eccentric formed at the end of the mill shaft, upon this eccentric bearing or journal, is placed and operated the eccentric moving grinding plate F, the full eccentric throw or motion of this plate, being checked and changed at its upper or feeding side, into nearly a vertical, or vibrating reciprocating motion, by means of an elastic check bar or stop, G, having one of its ends attached to the frame work of the mill, and the other pivoted, or attached to the eccentric moving plate.

The grain to be ground is fed between the grinding plates near their centers of motion; and the throat, *a*, vibrating mouth, *b*,

and fixed tongue, *d*, may be arranged together and in connection with the hopper, H, in the manner shown in the drawings, to perform this operation. The gage of the grinding plates is regulated in the usual manner,—by means of a set-screw I. Now, when the mill is turned, the axis of the plate F is carried in a circle, by the eccentric E, around that of the constantly revolving plate D; so as to thereby feed the material to be ground outward in every direction from the center of the plates; but this is not all, for, in connection with this movement of the plate F, this plate is also at the same time swung or oscillated, about its point of connection with the check-bar G as a center, back and forth across the face of the rotary plate D; so that when the plates are run vertically or in an inclined position, the lower portion of the plate F,—where in such case the weight of the grain tends to over-feed the mill,—may have a more active and extensive vibratory movement to prevent clogging, than any other part thereof.

What I claim as my invention and desire to secure by Letters Patent, is—

Giving to the grinding plate F, when it is applied to a constantly revolving grinding plate D, the positive, two-fold eccentric and swinging movement described, substantially in the manner and for the purposes herein set forth; in contradistinction from giving to the grinding plate F, when used with a rotary grinder D, a simple eccentric, swinging, or reciprocating motion, or any other simple or compound movement heretofore positively communicated thereto in grinding mills.

EZRA RIPLEY.

Witnesses:

J. J. SAVAGE,

R. A. GOTTRIDGE.