

S. P. WALLING.
Grinding-Mill.

No. 218,346.

Patented Aug. 5, 1879.

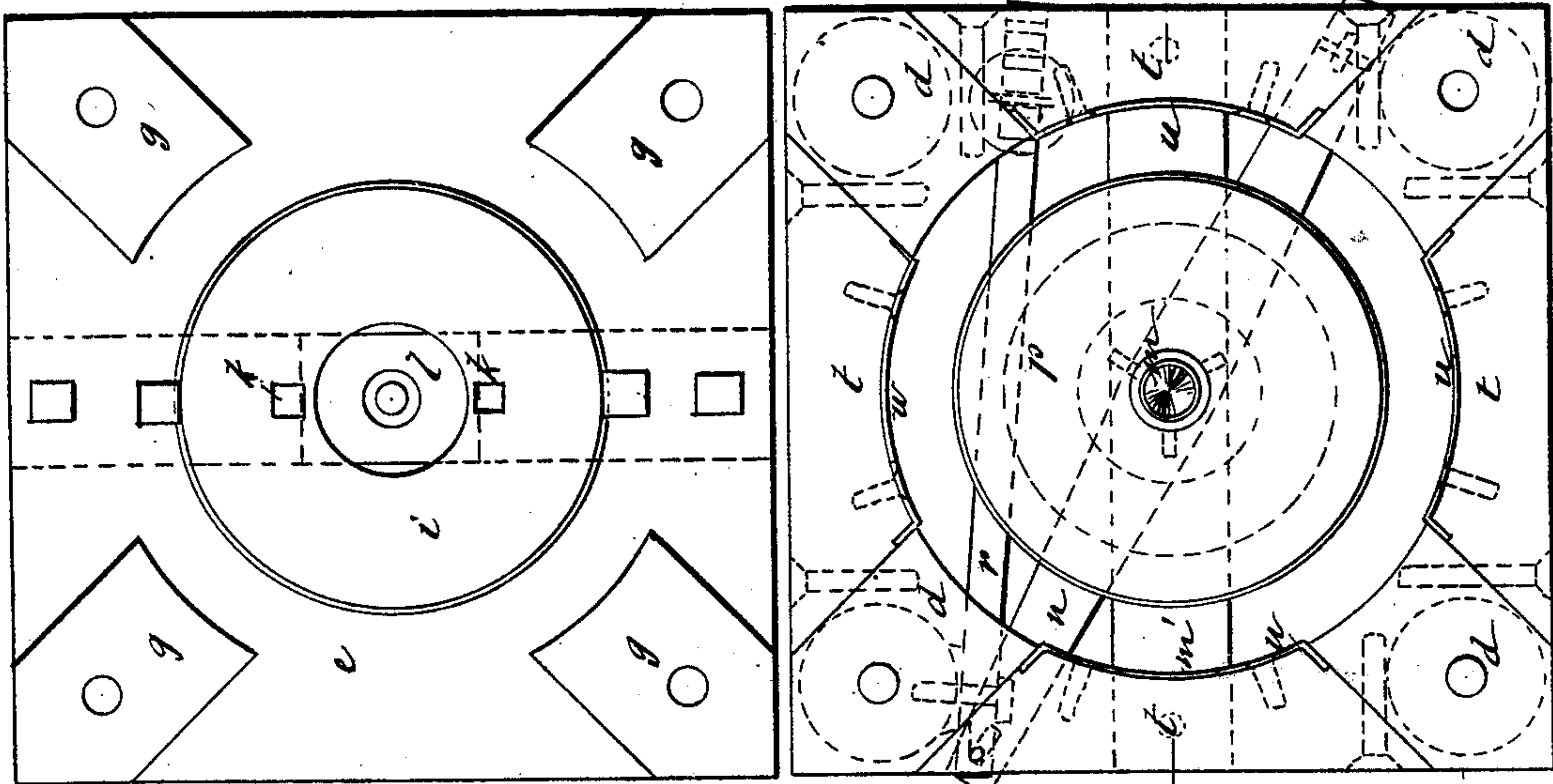


Fig. 2

Fig. 3

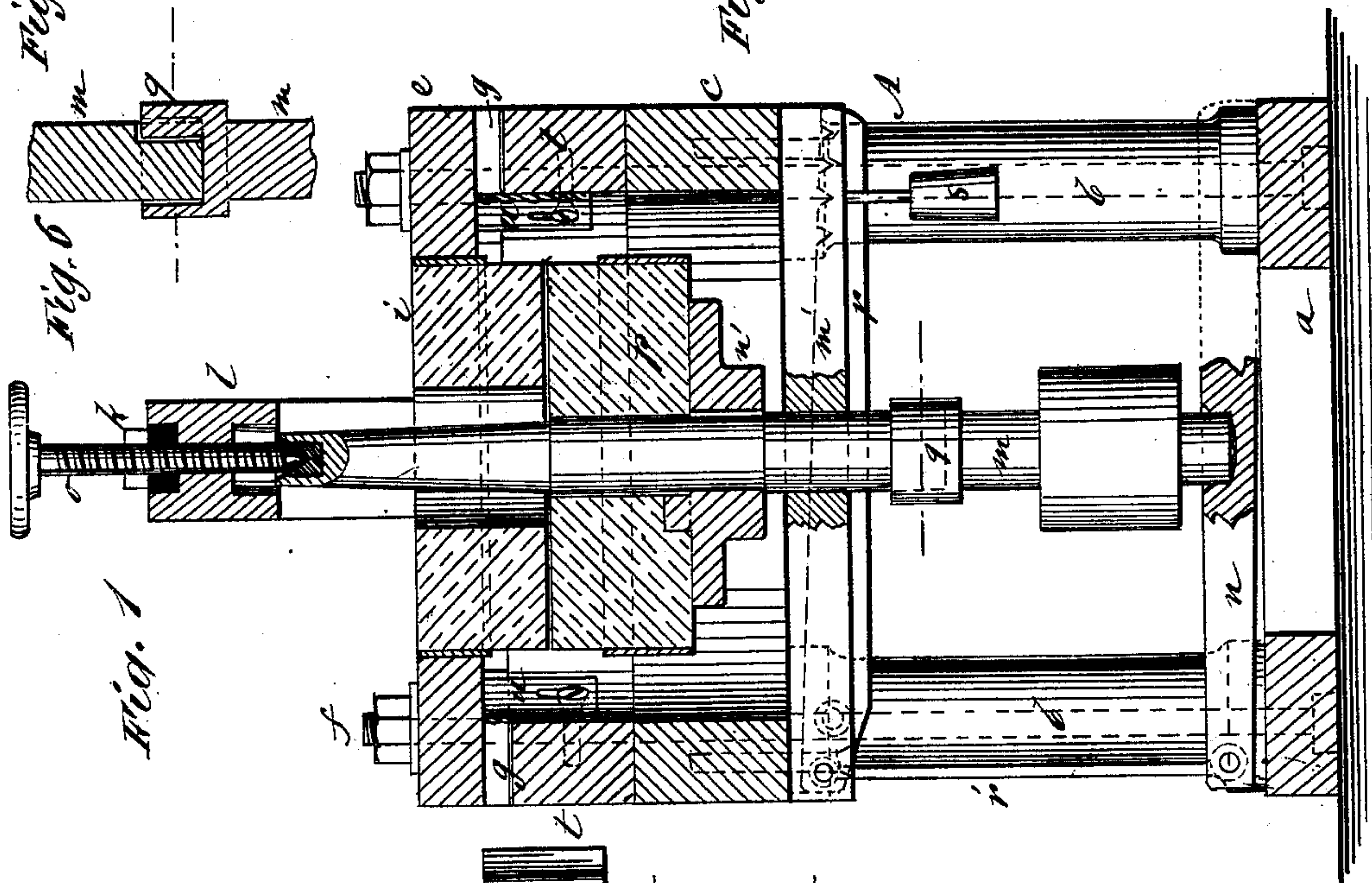


Fig. 1

Fig. 4

Fig. 5

Fig. 6

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

STEPHEN P. WALLING, OF SOUTH EDMESTON, NEW YORK.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **218,346**, dated August 5, 1879; application filed March 3, 1879.

To all whom it may concern:

Be it known that I, STEPHEN P. WALLING, of South Edmeston, in the county of Otsego and State of New York, have invented a new and Improved Grinding-Mill, of which the following is a specification.

My invention relates to mills for grinding grain; and consists in certain novel features of construction, whereby the running stone may be more accurately adjusted than heretofore, and the stones more conveniently removed for dressing; also, in the general construction of the mill, as more particularly set forth hereinafter, and shown in the accompanying drawings, wherein—

Figure 1 is a central vertical section of my improved mill. Fig. 2 is an inverted plan view of the top plate. Fig. 3 is a plan view with the top plate removed. Figs. 4, 5, and 6 are detail views.

Similar letters of reference indicate corresponding parts.

The mill shown is a horizontal mill of the portable class; but my improvements may be applied to vertical and stationary mills.

A is the husk-frame, consisting of sill-plates *a*, pillars *b*, and top frame *c*, which parts are of usual character. At each corner of frame *c* are blocks *d*, that support the top plate, *e*, the parts being tied together at each corner by a bolt-rod, *f*; and there are rubber bearing-blocks *g*, interposed between plate *e* and supports *d*. This construction permits perfect adjustment of plate *e* to a level compensation for wear of stones, and gives an elastic pressure upon the nuts of the tie-bolts that prevents them from working loose.

The upper and stationary stone, *i*, is secured rigidly to plate *e* by means of bolts *k*, that secure the bridge-tree *l* on plate *e*. These bolts *k* pass through the eye of stone *i*, and lock into the face or through holes drilled in the stone close to the eye, as shown.

The spindle *m* is supported at the bottom in a step in a lever, *n*, and at the upper end by the point of the adjusting-screw *o*, that works in bridge-tree *l*. Below the frame *c* spindle *m* passes through a box in cross-bar *m'*. Upon spindle *m* is keyed a circular disk, *n'*, upon which rests the under and running stone, *p*, which is caused to turn with spindle *m* by

a ring upon the spindle, or in any other usual manner so that it can be removed for dressing.

The under side of stone *p* is to be dressed true to sit squarely on disk *n'*; and the disk serves as a firm support for the stone, and prevents it from shifting on the spindle. The stone remains rigidly in place, although loosely set, and the spindle will be turned slightly smaller above stone *p*, to facilitate the removal of the stone.

The hole in the spindle where screw *o* enters is fitted with a steel step for the point of screw *o*, and the point of the screw is grooved to give access of oil to the bearing.

The spindle *m* is in two sections, united by a flexible joint below cross-bar *m'*. I have shown a collar, *q*, attached rigidly to the lower section, and having a key or feather that enters loosely a key-groove in the lower end of the upper section, as shown by Figs. 5 and 6. This construction permits removal of the upper section of the spindle without removing the boxing, and any lateral movement or strain will not affect the running of the mill. This connection may be made in various ways with the same effect, so long as the connection is not rigid; and I do not limit myself to the connection shown.

The runner *p* is held to its work by a weighted lever, *r*, that is hung on one pillar, *b*, and connected by a rod, *r'*, with the lever *n*, that supports spindle *m*. The weight *s* of lever *r* is adjustable on the lever, so as to bring more or less pressure, as desired, on the stone.

The distance apart of the stones will be adjusted by screw *o*, and the weighted support of the spindle permits the lower stone to give and pass a nail or other hard substance, but the stones cannot come together any farther than permitted by screw *o*.

The space at each side between the blocks *d*, that support plate *e*, are closed by the segmental pieces *t*, that carry the sectional curb-plates *u*. These plates *u* (shown separately in Fig. 4) are adjustable vertically on the pieces *t*, so that they may be set up against plate *e*, and, with the blocks *d*, form a complete curb. The pieces *t* are held to blocks *d* by screws or by other devices, as desired.

The above-described construction renders the mill complete and efficient, and permits

access or removal of the parts with great facility.

In place of using a set-nut to retain the adjusting-screw in place, the screw will be packed by a washer of rubber or other elastic material, that will prevent the screw turning backward by the action of the spindle.

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

1. The combination, in a grinding-mill, with the top plate surrounding and supporting the

bed-stone and seated upon elastic cushions, of the yoke or bridge-tree rigidly bolted to the said plate and to the bed-stone, substantially as set forth.

2. The combination of the pieces *t*, carrying sectional vertically-adjustable curb-plates *u*, with the blocks *d* and plate *e*, as and for the purpose specified.

STEPHEN P. WALLING.

Witnesses:

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TRACY M. HAWLEY.