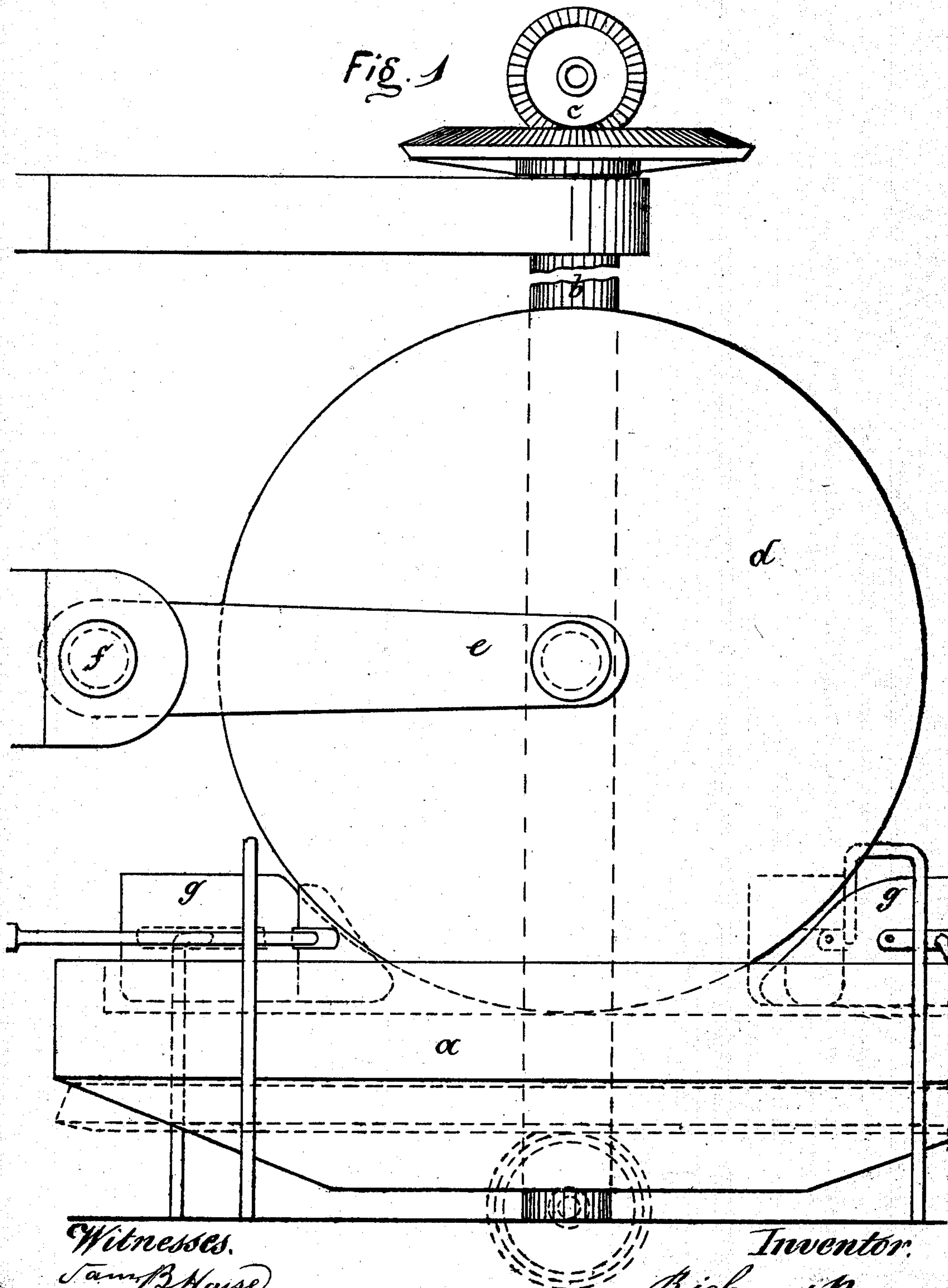


R. BYRNE.
Paint Mills.

No. 144,656.

Patented Nov. 18, 1873.

Fig. 1



Witnesses.

Jam. B. Haise
W. R. Hall.

Inventor.

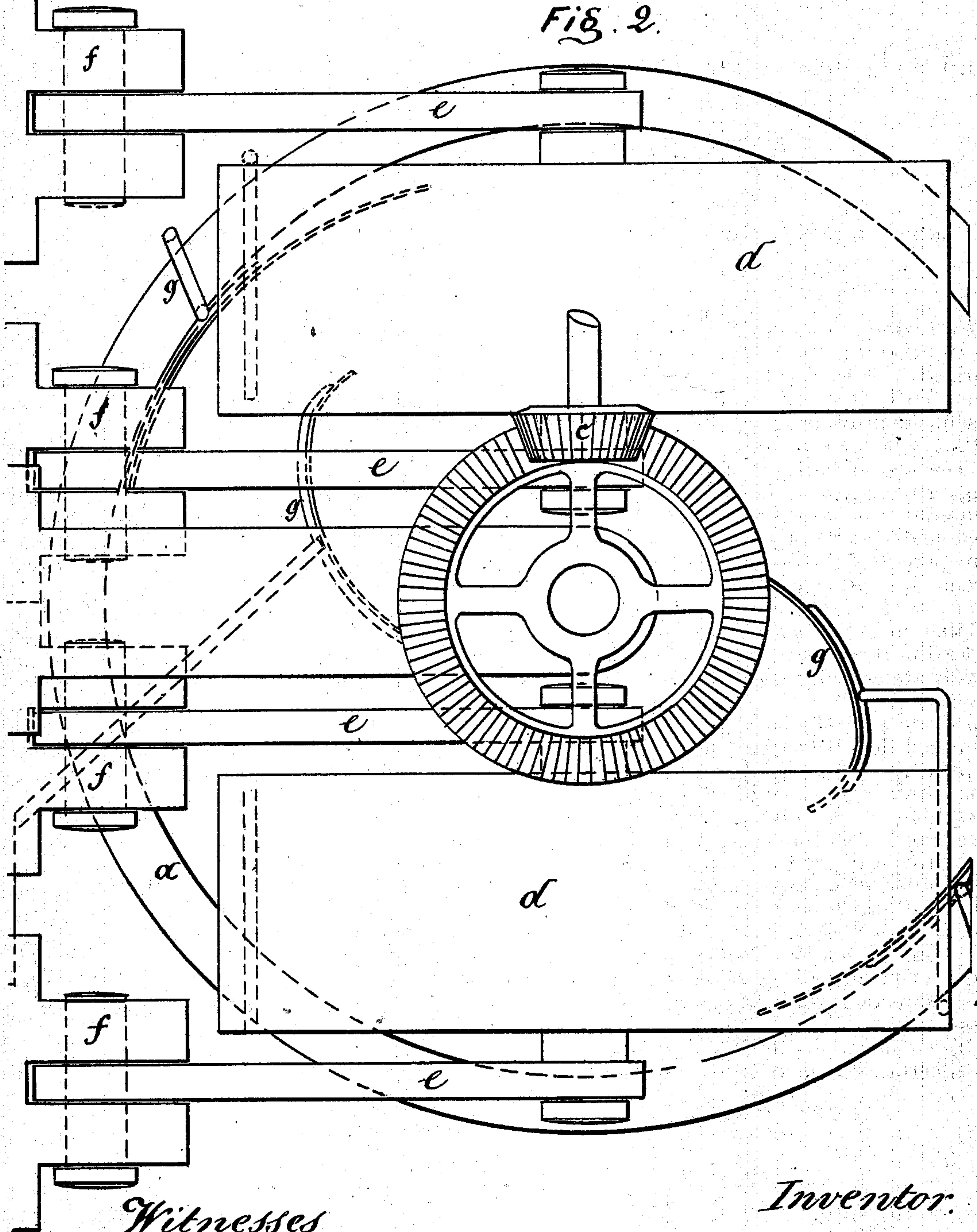
Richard Byrne.

R. BYRNE.
Paint Mills.

No. 144,656.

Patented Nov. 18, 1873.

Fig. 2.



Witnesses
Saml B House
Th. R. Hall.

Inventor.
Richard Byrne

UNITED STATES PATENT OFFICE.

RICHARD BYRNE, OF BROOKLYN, ASSIGNOR TO HIMSELF AND JOSEPH J. MARRIN, OF NEW YORK, N. Y.

IMPROVEMENT IN PAINT-MILLS.

Specification forming part of Letters Patent No. **144,656**, dated November 18, 1873; application filed June 13, 1873.

To all whom it may concern:

Be it known that I, RICHARD BYRNE, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Mixing or Grinding Mills, of which the following is a specification:

The said invention relates to mills for crushing, grinding, and mixing paints and other material; and consists in rotating a circular bed under stationary revolving rollers, that are permitted to rise and fall in a swinging frame, instead of causing the crushing-rollers to travel around the bed, as in the ordinary Chilian mill. With a mill constructed and operated in this manner, in which a bed is accurately adjusted on a shaft and journals, and revolves in an unvarying plane, there need be no strain upon the building, and less power is required than if it were applied to drive the crushing-rollers around the circle by means that would also be required to permit the vertical play of the rollers or chasers in passing over the material upon which the mill may be employed to operate. As the rollers remain in position while doing their work, the attendants may stand between them without danger, and load or discharge the mill, or regulate the material, as may be required, without stopping its operation. Suitable mechanical scrapers and mixers may be applied, as deemed necessary.

To enable others skilled in the arts to which it appertains to make and use my said inven-

tion, I will proceed to describe its construction and operation with reference to the drawings.

Figure 1 is a side elevation of a mill constructed according to the improvements of my said invention, and Fig. 2 is a plan of the same.

The revolving circular bed *a* is hung upon the vertical shaft *b*, and is driven by the bevel-gearing *c*. It may also be driven from below, if preferred, by the gearing shown in dotted lines in Fig. 1. The crushing-rollers *d* are hung on the vibrating arms *e*, that swing on the journals *f*. The stationary scrapers *g* collect the material that is being crushed, ground, or mixed, and direct it into the path that traverses under the rollers. Other similar scrapers may be adjusted to cause the mill to discharge itself by its own motion; and the various hoppers and pipes for the supply of material to be crushed, or that may be required in the operations of mixing or other treatment, may be conveniently applied between the crushing-rollers.

I claim—

In a grinding-mill of the kind described, the combination, with the stationary revolving rollers *d*, of the supporting and vibrating arms *e*, pivoted to a suitable frame by bearings *f*, substantially as and for the purpose set forth.

RICHARD BYRNE.

Witnesses:

W. K. HALL,
SAM. B. HOUSE.