A. N. WOLF.
Grinding-Mill.

No. 204,121. Patented May 21, 1878.

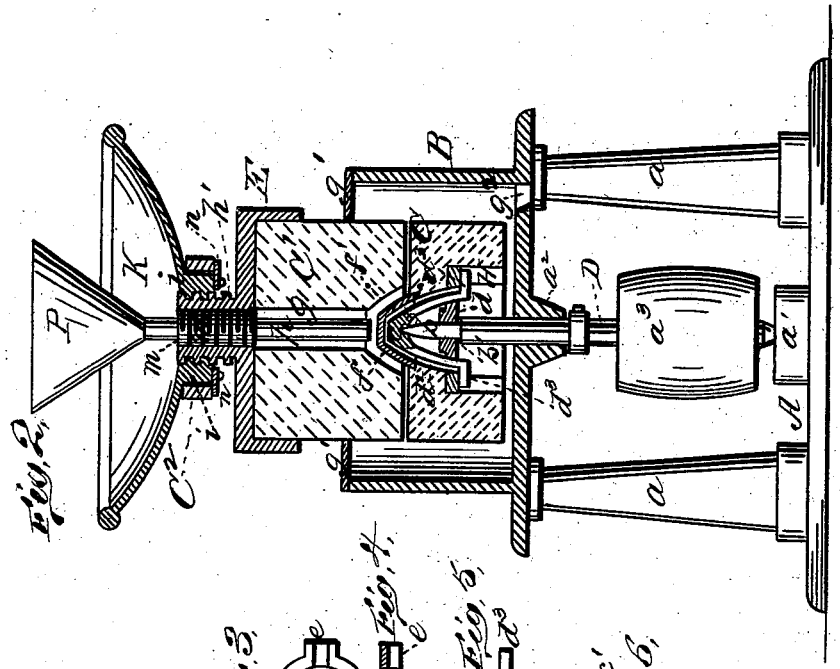

Fig. 2.

Fig. 3. Fig. 4. Fig. 5. Fig. 6.

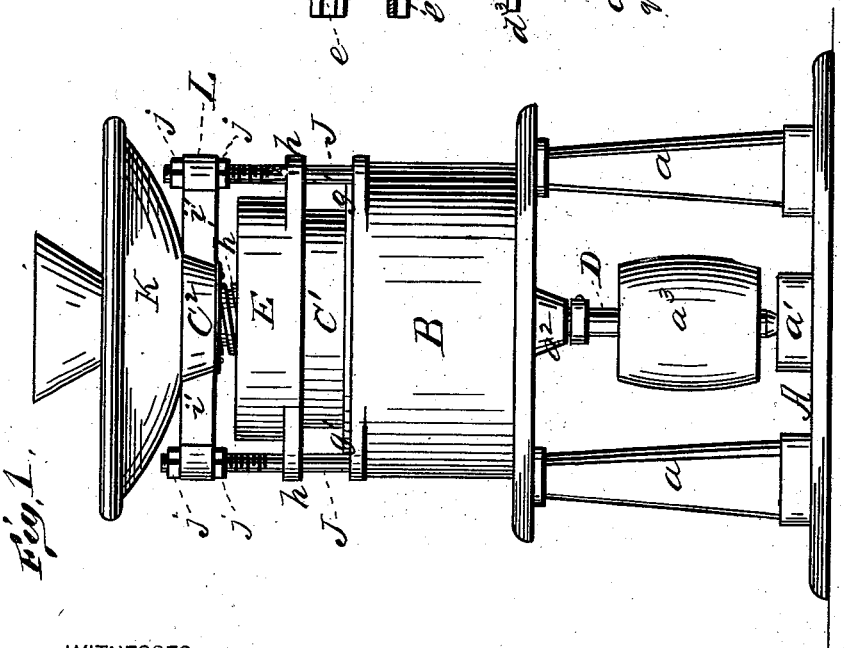

Fig. 1.

WITNESSES
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ABRAHAM N. WOLF, OF ALLENTOWN, PENNSYLVANIA.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **204,121**, dated May 21, 1878; application filed April 27, 1878.

To all whom it may concern:

Be it known that I, ABRAHAM N. WOLF, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and valuable Improvement in Grinding-Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side view of my improved grinding-mill. Fig. 2 is a vertical central section thereof; and Figs. 3, 4, 5, and 6 are, respectively, a bottom view of the hub, a cross-section thereof, a side view of the rynd, and a plan view of the driver.

This invention has relation to improvements in grinding-mills.

The nature of the invention consists in combining, with the running stone, its casing having vertical screw-threaded rods, the bed-stone, and its casing-hoop engaged with said rods, and provided with a tubular threaded neck, a spider engaging said rods and vertically adjustable thereon, a hand-wheel having a hub engaging the threaded neck of the bed-stone casing, and journaled in and supported by the said spider, whereby an approximate adjustment of the bed-stone to the running stone is had by manipulating the nuts on said rods, and an exact and finer adjustment by turning the hand-wheel.

It also consists in the combination, with the running stone having a raised central cone, and a bed-stone having a feeding-eye, an under recess to receive said cone, and a casing-hoop provided with a tubular threaded neck, of a hopper having a tubular stem extending down the eye of the bed-stone to or nearly to the raised cone of the running stone, and provided with a screw-thread engaging the neck of the bed-stone, whereby by turning the hopper the supply of grain to the stone is regulated, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates the bed-plate of my improved grinding-mill, having erected thereon three or more posts, *a*, that support the hoop or casing B of the running stone C. D indicates the spindle, having its lower bearing in a step or ink, a^1, upon the plate A, and its upper bearing in a hub, a^2, on the under side of the casing or hoop B.

The spindle is driven by a pulley, a^3, or its equivalent, on the spindle, and it extends upward through the bottom of the said casing. It is provided at its upper end with a cock-head, *b*, forming with the spindle a shoulder or bearing, *b'*.

In cross-section the cock-head is oblong, oval, or ovoidal near its junction with the spindle, and it terminates at its upper end in a conical or conoidal point, *c*.

d indicates a driver, having an aperture through it designed to receive snugly the oblong, prismatic, oval, or ovoid portion of the cock-head *b*. This driver has at each end a notch, *c'*, designed to receive each an arm, d^1, of the arched balance-rynd d^2. This rynd has at each end an arm, d^3, designed to be received in recesses *e* in a metallic hub, H, recessed into the under side of the running stone C. The hub H is cylindrical, and the recesses *e* are formed in offsets diametrically opposite each other upon the outside of said hub, the recess of the stone being of a size to receive said hub snugly. The cock-head is received in an eye upon the under side of the rynd in the usual manner.

The driver being immovable relative to the spindle, the branches of the rynd engaged in its end notches, and the arms of said rynd engaged in recesses of a box, H, immovably secured in the under side of the running stone, it is evident that the rotation of the spindle will impart a rotary motion of a positive nature to the said stone, and that the stone, being poised upon the spindle by means of the head and eye, will adjust itself automatically to the position of the bed-stone C', which it is difficult to adjust exactly horizontal. Upon the top of the stone C is a central projecting cone, *f*, that is received in a recess, *f'*, of corresponding form upon the under side of the bed-stone, the said recess being continued upward as an eye, *g*, through the stone and its casing E. The former is rigidly secured in the latter, and, being of less diameter than the casing of the running stone, forms therewith an annular space that is closed by a flexi-

ble collar, g^1, upon the said stone C′, by which means the ground grain is prevented from escaping from the casing otherwise than through the educt g^2. The bed-stone is held stationary by means of arms *h*, that are engaged with vertical screw-threaded rods J, projecting upward from casing E, and the latter is provided with a tubular neck, *h′*, having inside and outside screw-threads, as shown in Fig. 2.

K represents a hand-wheel, the hub of which is threaded, and engages the neck *h′* aforesaid, and L a spider, applied loosely upon the said hub *i*, and having its arms *i′* engaged by the rods J, that extend through them. Upon these rods, above and below the arms *i′* of the spider, are applied nuts *j*, by means of which the said spider is adjusted upward or downward.

The casing E being supported by the hand-wheel, and the latter by the spider, it follows that, by raising or lowering the said spider, the bed-stone is raised or lowered to correspond. By this means an approximate adjustment of the bed-stone to the runner is had, the finer adjustment being obtained by turning the hand-wheel and lowering or raising the former independently of the said spider. This is possible, for the reason that the spider which supports the hand-wheel, and in which it is journaled, is held stationary by the nuts *j*, and that the said hand-wheel is prevented from upward movement by an annulus, *n*, rigidly secured to the lower edge of the hub of said wheel, and overlapping that of the spider.

As aforesaid, the neck of the casing E is tubular and inside-threaded, and it extends through the wheel K, forming a continuation of the eye *g*.

Grain is fed to the stones by means of a hopper, P, having a long tubular stem, *p*, extending down the eye *g* nearly to the cone *f* of the running stone, and provided with a screw-threaded portion, *m*, that engages the inside thread of the neck *h′* of the casing E. By turning this funnel the lower end of the stem is brought closer to or drawn farther from the said cone, and the supply of grain fed to the stones lessened or increased, as the case may be.

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

1. The combination, with the running stone C, its casing B, having vertical screw-threaded rods J, the bed-stone C^1, and its hoop-casing E, having offsets *h* engaging said rods, and provided with the tubular threaded neck *h′*, of the spider C^2, engaging the said rods, the adjusting-nuts *j j* above and below said spider upon said rods, and the hand-wheel K, having inside-threaded hub *i*, engaging the neck of the casing, and journaled in and supported by said spider, substantially as specified.

2. The combination, with the running stone having raised cone *f*, and a bed-stone having a recess *f′*, and a casing, E, provided with a tubular female screw-threaded neck, *h′*, of the hopper P, having a tubular stem, *p*, having a screw-thread meshing with the thread of said neck, as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ABRAHAM N. WOLF.

Witnesses:
JOHN DARROHN,
HENRY T. KLECKNER.