O. B. BLAKESLEE.

GRINDING MILL.

No. 175,652. Patented April 4, 1876.

Fig. 1.

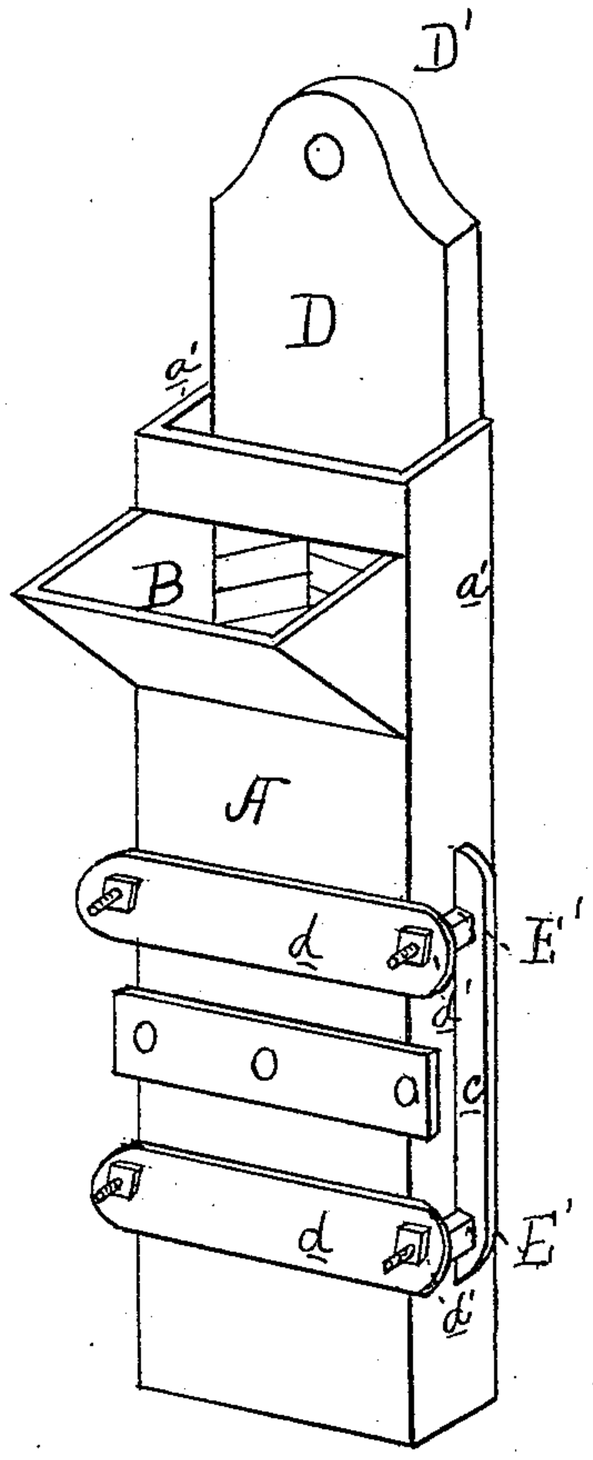


Fig. 2.

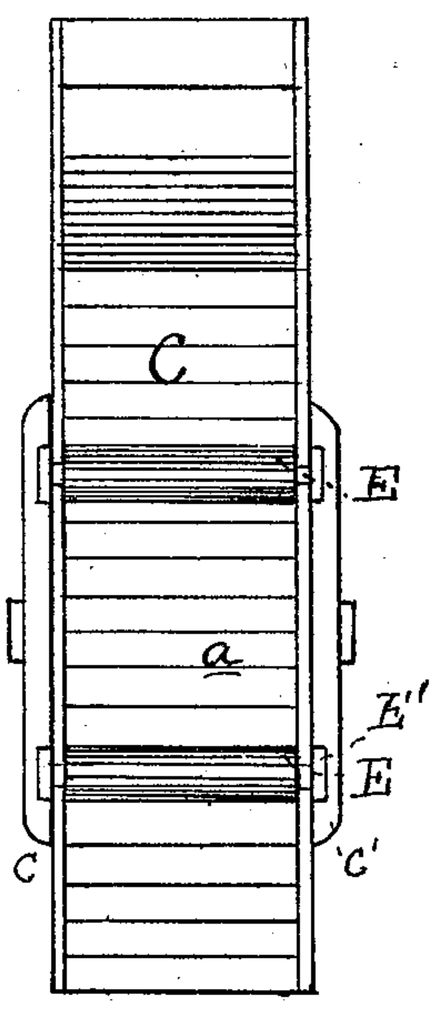
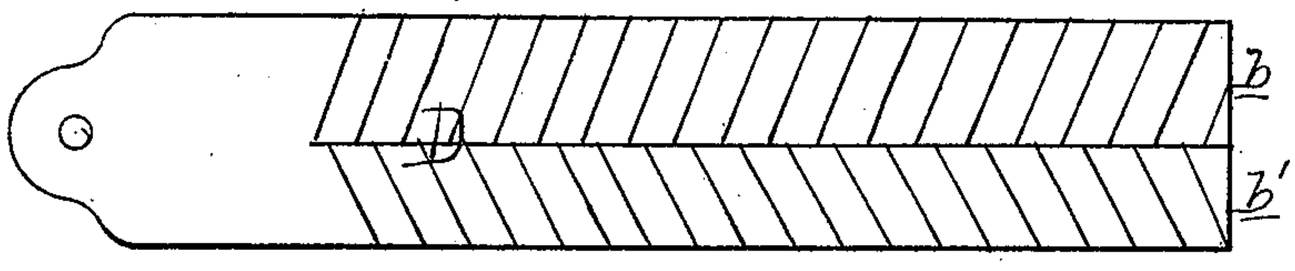


Fig. 3.



Attest:
Chas Thurman
R. F. Dyer.

Inventor
Owen B. Blakeslee
by Geo. W. Dyer & Co
Attys.

UNITED STATES PATENT OFFICE.

OWEN B. BLAKESLEE, OF RANKIN, ILLINOIS.

IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. **175,652**, dated April 4, 1876; application filed January 19, 1876.

To all whom it may concern:

Be it known that I, OWEN B. BLAKESLEE, of Rankin, in the county of Vermillion and State of Illinois, have invented a new and useful Improvement in Grinding-Mills; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is a mill for grinding grain, more particularly designed for the use of such farmers as have a windmill-power for pumping water, which will be efficient and simple in construction and operation.

My invention therein consists, principally, in the combination of the vertical casing, hopper, and grinding-surfaces; further, in the peculiarly-serrated reciprocating grinding-surfaces; and, further, in the combination of the principal operative parts, all as more fully hereinafter explained.

To enable others skilled in the art to manufacture and use my mill, I now describe the same in connection with the drawings, in which—

Figure 1 is a perspective view; Fig. 2, a rear elevation with the reciprocating plate removed, and Fig. 3 an elevation of the reciprocating plate.

Like letters denote corresponding parts in each figure.

A represents the outer casing, standing in a vertical position, and supported in any convenient manner. At or near the top of the casing is situated the hopper B, partly outside the casing, and slanting downwardly and inwardly through such casing. C is a stationary metal plate or grinding-surface, set into the casing, and extending from the bottom of the same to the bottom of the hopper. In the face of the stationary grinding-surface are cut the serrations *a*, sloping upwardly. D is a reciprocating plate or grinding-surface, confined between the sides *a'* of the casing, and extending above said casing, where its end is attached to a pitman-rod, D'. The pitman-rod passes through the reciprocating plate and strikes the upper part of the casing, so as to limit the lower movement of said reciprocating plate. The face of the reciprocating plate is provided with two sets of downwardly-sloping serrations, *b b'*, each slanting downwardly from the center part of the face of the reciprocating plate to its sides, the serrations *b* being in advance of the serrations *b'*. The reciprocating plate is held in the casing and pressed onto the stationary grinding-surface by rollers E. Each roller is journaled in the ends of arms E', which pass through wings *c c'* on the side of the casing, and through plates *d* on the front of the casing. The ends of the arms E' are screw-threaded and provided with nuts *d'*, adapted to adjust the arms and rollers. The stationary grinding-surface is wedged out from the casing at its bottom, so as to make the space between the grinding-surfaces smaller at the bottom than at the top, the serrations being finer and nearer together as they approach the lower ends of such grinding-surfaces.

The grain is placed in the hopper, and presses against the face of the reciprocating plate, by which it is drawn between the grinding-surfaces, and delivered, in a ground condition, at the lower end of the casing into any proper receptacle.

The rollers are adjusted to set the reciprocating plate at the right distance from the stationary grinding-surface, so as to grind the grain to the proper fineness.

The construction of the serrations on the face of the reciprocating plate is advantageous, as a tooth of the serrations *b* finishes the breaking of a whole grain, while one in the set *b'* commences to break the grain, the friction thereby being equalized, and the power required to operate the mill regulated.

The pitman-rod D' is intended to be connected directly to the pitman-rod of a windmill.

The number of the adjustable rollers and the form of the casing and principal operative parts may be varied without departing from the spirit of my invention.

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

1. The combination of the vertical casing A, hopper B, stationary grinding-surface C, and

reciprocating plate or grinding-surface D, when the several parts are adapted to operate substantially as described and shown.

2. The vertically-reciprocating plate D, having two sets of serrations, *b b'*, cut in its face, one in advance of the other, substantially as described and shown.

3. In a vertically-reciprocating grinding-mill, the combination of the casing A, hopper B, stationary grinding-surface C, reciprocating grinding-surface D, pitman-rod D', and adjustable rollers E, all substantially as described and shown.

This specification signed and witnessed this 31st day of December, 1875.

OWEN B. BLAKESLEE.

Witnesses:
JOHN F. CAMPBELL,
CHARLES GRIFFIN.