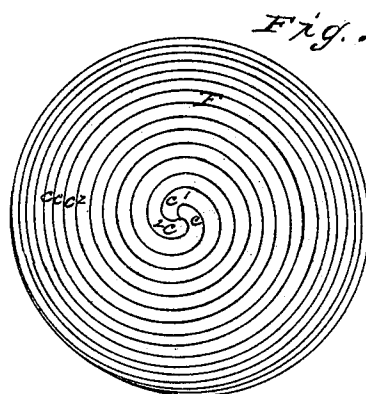
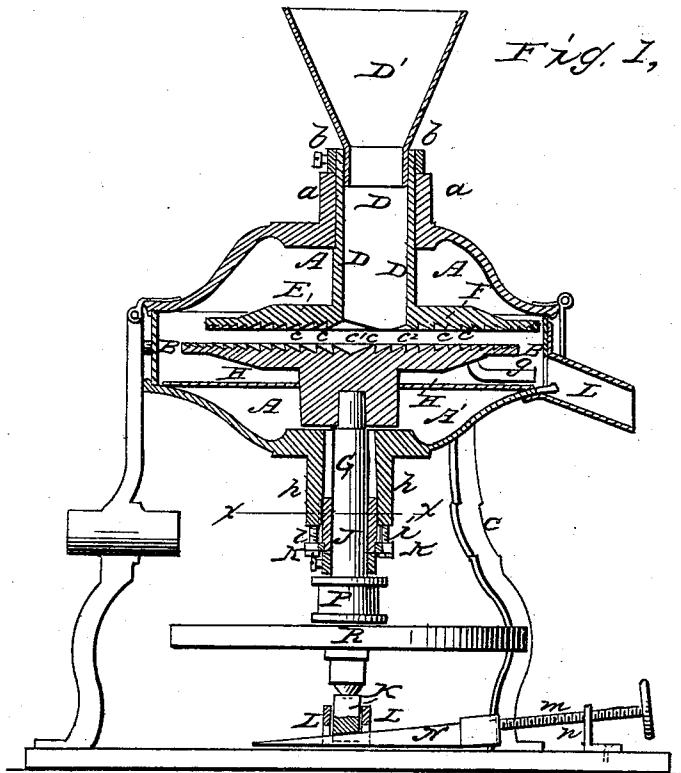


RUOF, HEUPEL & LEUTHY.

Grinding Mill.

No. 29,010.

Patented July 3, 1860.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN RUOF, ANTHONY HEUPEL, AND FRANK LEUTHY, OF LANCASTER, PENNSYLVANIA.

GRINDING-MILL.

Specification of Letters Patent No. 29,010, dated July 3, 1860.

To all whom it may concern:

Be it known that we, JOHN RUOF, ANTHONY HEUPEL, and FRANK LEUTHY, all of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Grinding-Mill; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, represents a vertical transverse section taken through the middle of the improved mill. Fig. 2, shows the dress of the grinding disks. Fig. 3 a section taken horizontally through the lower spindle of Fig. 1, as indicated by the red line x, x , marked thereon.

Similar letters of reference indicate corresponding parts in the three views.

This invention consists in a novel manner of laying off the dress of the mill stones so that they will more effectually grind grain, and the quantity ground will be increased with a given power, producing a better yield of flour and avoiding both the choking and undue heating of the stones as will be hereinafter set forth.

To enable those skilled in the art to fully understand our invention, we will proceed to describe its construction and operation.

In the drawings, A, A', represent respectively the cup and bottom portions, that with the ring or curb B, form the body of the mill. This box is supported by three legs C, one of which will serve, if a band is not used, for supporting the driving shaft but in the present case the mill is driven by a belt from any convenient prime mover. Through the top of the cap A, passes a hollow shaft D, that has its bearings on the top of a collar a , and is hung by a ring b , (Fig. 1) D', is the hopper into which the grain is supplied. The hollow shaft passes down eccentrically through the cap A, and it carries the upper grinding plate E, which is made of cast iron, and the grain in its passage to the grinding surfaces from the hopper D' escapes from the shaft D, at the center of the grinding plate, and a little to one side of the axis of the lower grinding plate F, as clearly shown in Fig. 1. This runner or lower plate F, is set on the end of a perpendicular shaft G, and keyed to this shaft which gives motion to the runner. The

faces of the two grinding plates are parallel to each other in a horizontal plane, and they have a very peculiar dress which is formed in casting them.

The dress is represented in Figs. 1 and 2, and it is laid off in triple helical grooves c, c', c'' , that start quite deep at the center or eye of the plate as shown in Fig. 1, and running gradually shallower and narrower as they approach the circumference of the plates; both plates are dressed alike. The motion given to the lower plate when the grain is properly supplied to the hopper will cause the upper plate to rotate also, but as the two plates are placed to one side of a common axis, their action upon the grain will be to reduce it rapidly and properly, and deposit it from the circumference of the plates on the bottom plate H, from which it is scraped to escape-spout I, by an arm or wing g .

The shaft G, passes down through the center of the lower portion A'. This has cast on it a tube h , the inside of which is conical as represented in Fig. 1, and in this conical bore is placed a metal box J, of brass or other metal that serves for side bearings, to keep the shaft true, and the grinding surfaces of the plates parallel to each other. The outside of the box is made conical and slightly larger than the bore into which it fits, and the box is made in two longitudinal halves as shown in Fig. 3, each of which is prevented from turning with the shaft G, by a key tenon that fits into a mortise or groove in the bore of tube h , as shown in Fig. 3. The bottom of the box rests on an adjustable plate k , which may be raised or depressed, for tightening or loosening the box around the shaft G, by moving the set screws i, i' .

The shaft G is stepped in a block K, that is placed within a tube or socket L, transversely through the bottom of which, passes an adjustable wedge N, on which the step block K, rests.

By moving the wedge back or forth, the surfaces of plates E, F, may be brought nearer together or farther apart while the mill is in operation if desirable. The wedge is operated by a screw m , that passes through a stationary piece n .

P, is a flanged drum, keyed to shaft G, around which the driving belt is passed, and below this drum on the shaft, is placed a

balance wheel R, to equalize the motion of the mill.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is—

The two plates E, F, arranged and operating as described when their dress is laid off in spiral eccentric grooves c , c' , c^2 , as de-

scribed and represented for the purposes set forth.

JOHN RUOF.
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Witnesses:

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