

### Grinding Mill.

Patented Nov. 7, 1865.

A detailed geometric diagram of a circular structure, possibly a cross-section of a dome or a mechanical component. The main circle is labeled with the Greek letter  $\alpha$  in two locations. A horizontal dashed line passes through the center, labeled  $x$  on the left and  $a$  on the right. A small circle is attached to the left side of the main circle, containing a cross-hatched area and labeled with  $b$  and  $z$ . A larger circle is attached to the right side, containing six radial lines labeled  $d$  and  $e$ . The rightmost part of the diagram shows a complex arrangement of lines and points labeled  $c$ ,  $f$ ,  $g$ , and  $h$ .

Inventors:  
R. Denison  
J. D. Moon  
By Munroe & Co,  
Attys.

# UNITED STATES PATENT OFFICE.

ROSWELL DENISON AND JOHN B. MOON, OF GRAND RAPIDS, MICHIGAN.

## IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 50,805, dated November 7, 1865.

*To all whom it may concern:*

Be it known that we, ROSWELL DENISON and JOHN B. MOON, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and Improved Cooler Attachment for Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention consists in supplying a current or currents of cold air to the interior of the millstone casing or curb, and also through and into the eye of the stone, for the purpose of exhausting the moisture from the wheat as it is being ground, and thus preventing its gathering upon and adherence to the surfaces of the stones, curb, and other contiguous parts, where it soon sours, the air thus charged with the moisture from the wheat then passing freely out of the curb into a receiver therefor, where, leaving such particles of wheat as may have been carried with it, it escapes to the atmosphere.

In accompanying plate of drawings our improvement is illustrated, Figure 1 being a plan or top view of the exterior of the stone curb or casing with a fan-blower arranged upon the same, (shown in horizontal section,) for forcing a current through and into the interior of the curb; Fig. 2, a central vertical section taken, in the plane of the line *x x*, Fig. 1.

*a a* in the drawings represent the curb or outer casing of the millstones, made of any of the ordinary materials used therefor, and of the proper size and dimensions, according to the diameter of the stones used, the curb being arranged as heretofore, and having an opening, *b*, in its center, communicating with the eye of the stone; *c*, the spout at or near the bottom of the curb, through which the ground wheat is removed from the curb.

Upon the top of the curb *a*, and at any proper point thereof, we arrange a fan-blower, *d*, made of any of the ordinary styles or constructions, incased and revolving with a horizontal covering or casing, *f*, of the proper shape, having apertures *g g* in its top plate for admitting the external and surrounding air thereto, provided with swinging covers or plates *h h* for opening or closing the same at pleasure. Within this casing the fan-blower revolves, receiving motion from the upright shaft *l* of the stones through a pulley, *m*, at-

tached thereto, and connected by a belt, *n*, with the pulley *o* of the upright vertical shaft *p* of the blower, turning in suitable bearings of its outer casing.

*r* is a pipe or tube leading from one end or side *s* of the blower-casing to the bottom of the curb, and forming a communication thereat between the same, another pipe, *t*, passing from the opposite side, *u*, of the blower-casing into the eye of the stone. Through these pipes *r* and *t*, as the fan-blower is revolved, having its apertures *g g* of its casing opened, currents of fresh and cool air are continually supplied, not only to the interior of the curb, but also to the eye of the stones, which, after having been thoroughly circulated and diffused through the same, escape therefrom through a pipe, *y*, at the top of the curb into a receiver, *z*, from whence it passes to the surrounding atmosphere, depositing and leaving such particles of the ground wheat as may have been carried with it in the said receiver. By thus passing a current or currents of cool and fresh air through the interior of the curb and the eye of the stones, as described, it is obvious that not only will all the moisture contained in the wheat being ground be absorbed thereby, but that, furthermore, the stones will be kept cool and prevented from becoming heated to such a degree as to impair the quality of flour produced, the most important advantage of which is that no deposit or adherence of damp wheat upon and to the sides or surfaces of the stones or curb or to any pipes or shafts leading thereto or connected therewith is allowed, whereby the parts are always sweet-smelling, and do not become sour, as would be the case if cool air was not supplied thereto, as is well known by all conversant with the grinding of wheat and other similar articles.

We claim as new and desire to secure by Letters Patent—

The combination of the fan-blower *d*, air-pipes *r t*, arranged as described, and the discharge-pipe and chamber *y z*, in which latter the air is withdrawn from the inside of the curb distinct from the aperture through which the meal is discharged.

ROSWELL DENISON.  
JOHN B. MOON.

Witnesses:

JOHN MANGOLD,  
ROBERT BROWN.