G. & H. O'CONNOR.

Millstone Dress.

No. 109,542. Patented Nov. 22, 1870.

Fig. 1.

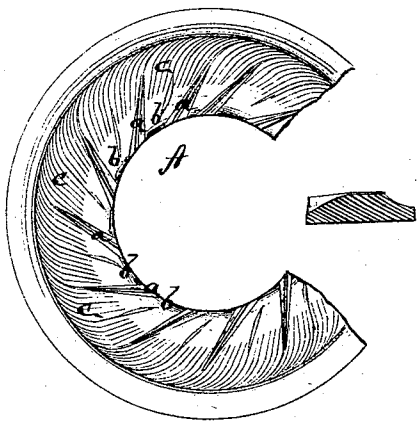


Fig. 2.

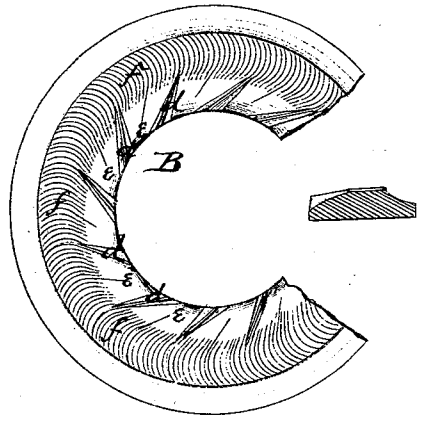
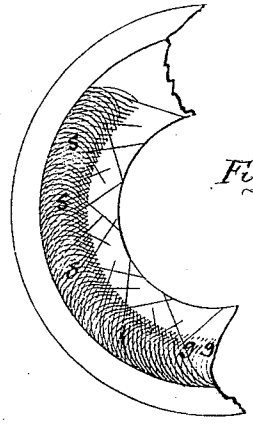


Fig. 3.



Witnesses:

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GEORGE O'CONNOR AND HAINES O'CONNOR, OF MISHAWAKA INDIANA.

Letters Patent No. 109,542, dated November 22, 1870.

IMPROVEMENT IN MILL-STONE DRESS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, GEORGE O'CONNOR and HAINES O'CONNOR, of Mishawaka, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Grinding-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of our invention consists in the construction, arrangement, and operation of two dissimilar grinding plates, one stationary and the other revolving upon it, whether their surfaces are flat, slightly concave, or slightly convex.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 represents the revolving plate;

Figure 2 represents the stationary plate; and

Figure 3 represents the line of action of the grooves in operation.

The revolving plate A is constructed with curvilinear grooves, *c c*, running from the inner to the outer edge of the plate, or from a point back of receiving openings to the outer edge.

From the receiving opening to this point run a series of ridges, *a a*, with receivers, *b b*, between them.

The stationary plate B is constructed with similar curvilinear grooves *f f*, ridges *d d*, and receivers *e e*.

The operation in grinding is such that the grooves and ridges cross each other in action, as shown in fig. 3, and the grain received in the receiving openings is broken and carried rapidly forward to the point *s*, when the ridges of the revolving plate force it across the ridges occupying the remaining space on the outer edge of the stationary plate, thereby producing a great degree of fineness in a very small space.

The draft or throw-off capacity obtained by the use of curvilinear ridges in the revolving plate becomes more efficient as we near the outer edge, and overcomes all clogging tendencies.

There is also an advantage in the consumption of less power by thus turning the curves back on the outer edge of the stationary plate.

The same result is produced by running the grooves in a straight line from the point *g*, fig. 3, to the periphery, making an angle at *g*.

Having thus fully described our invention,

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

1. The combination of plates A B, when provided with curvilinear grooves *c f*, said grooves being arranged on the outer circumference of the plates, as and for the purpose set forth.

2. The curvilinear grooves *c f*, in combination with the tangential ridges *a d* and receivers *e b* on the grinding plates A B, when constructed and arranged as shown and described.

In testimony that we claim the foregoing as our own, we affix our signatures in the presence of two witnesses.

GEORGE O'CONNOR.
HAINES O'CONNOR.

Witnesses:
J. H. WHITSON,
A. TERRY.