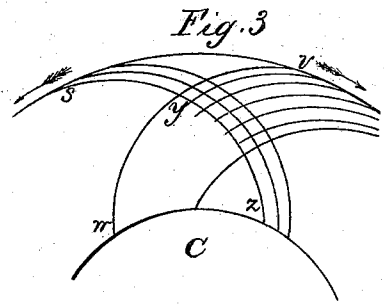
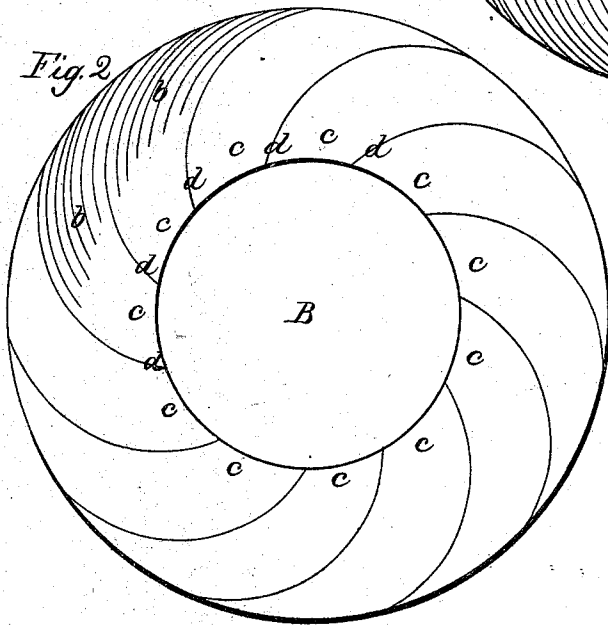
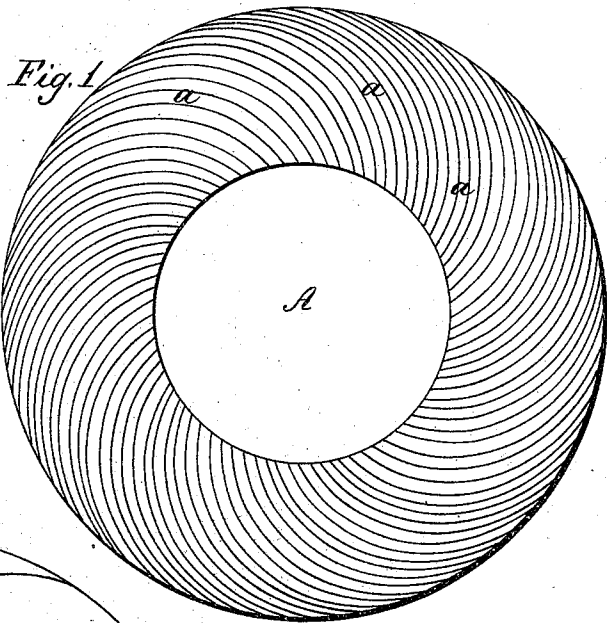
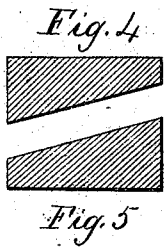


G. & H. O'Connor,

Millsstone Dress.

No. 105,592.

Patented July 19, 1870.



Witnesses
A. H. Whitson
Jared R. Morse

Inventor
George O'Connor
Haines, O'Connor

United States Patent Office.

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

Letters Patent No. 105,592, dated July 19, 1870.

IMPROVEMENT IN GRINDING-MILLS.

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 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 drawings and to the letters of reference marked thereon, forming a part of this specification.

Figure 1 represents the revolving plate.

Figure 2 represents the stationary plate.

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

Figure 4 is a sectional view of plate A.

Figure 5 is a sectional view of plate B.

Our invention consists in the construction, arrangement, and operation of two dissimilar grinding-plates, one stationary and the other revolving upon it.

The upper or revolving plate has a concave face, and is constructed with curvilinear grooves, which grooves extend from the inner to the outer edge of the revolving plate.

The stationary plate has a convex face, and is constructed with a number of receiving openings, and also with curvilinear grooves, running from the inner to the outer edge, or from a point back of said receiving openings, and from about midway of the face of the plate to the outer edge or periphery.

These curvilinear grooves, in both plates, grow more shallow as they approach the outer edge or periphery, and also come nearer together.

The operation in grinding is such that the upper plate, with the convex face and grooves, revolving upon the lower plate with the convex face and grooves, 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 constantly ground finer and finer as it nears the outer edge or periphery of the plates, by which means clogging is prevented, as the draft or throw-off, from the peculiar direction of the grooves, becomes greater as it nears the outer edge or periphery, where it is most needed.

To enable others skilled in the art to construct and operate our invention, we proceed to describe it more particularly.

A, fig. 1, is the revolving plate, having a concave face with curvilinear grooves running from the inner to the outer edge or periphery of the plate, as shown

in the drawings, and marked *a a a a*, occupying the surface of the plate.

B, fig. 2, is the stationary plate upon which the plate A revolves.

The plate B has a convex face, with curvilinear grooves running from the inner to the outer edge or periphery, or from any point back of the receiving openings, which are constructed on the inner edge of the plate, and may be eleven in number, more or less, for the admission of the grain between the plates.

These last grooves are shown in the drawings marked *b b b b*, occupying the surface of the outer half of the plate B.

d d d d are ridges formed upon plate B, running from the eye or inner edge, to the outer edge or periphery of plate B, thereby forming the openings to receive the grain, for the purpose of grinding while passing out through the grooves *b b b b*, &c.

It is manifest, however, that they may be made to run from the inner edge of the plate B, between the receiving openings, without changing their action or the principle of their operation.

The receiving openings made by the ridges in the plate B, are marked *c c c c c c c c c c c c*.

The plates thus constructed and arranged are operated with suitable shafting and gearing, and by the usual power, in the manner well known to mechanics in machinery of this description, all of which is old, and forms no part of our invention.

By the arrangement and construction before described, we also avoid a multiplication of grooves, the plates in action operating from the inner to the outer edge or periphery, upon the principle of an increasing draft.

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

1. The combination of the grinding-plates A and B, when provided with curvilinear grooves *a*, grooves *b*, and ridges *d*, in the manner and for the purpose herein described.

2. The construction and arrangement of the curvilinear ridges *d*, in the manner herein described, so that receiving-openings are formed between said ridges *d*, upon the plate B.

GEORGE O'CONNOR.
HAINES O'CONNOR.

Witnesses:
J. H. WHITSON,
JARED R. MORSE.