2 Sheets—Sheet 1.

W. D. ODENDAHL.

Millstone-Dress.

No. 206,963. Patented Aug. 13, 1878.

FIG. 1.

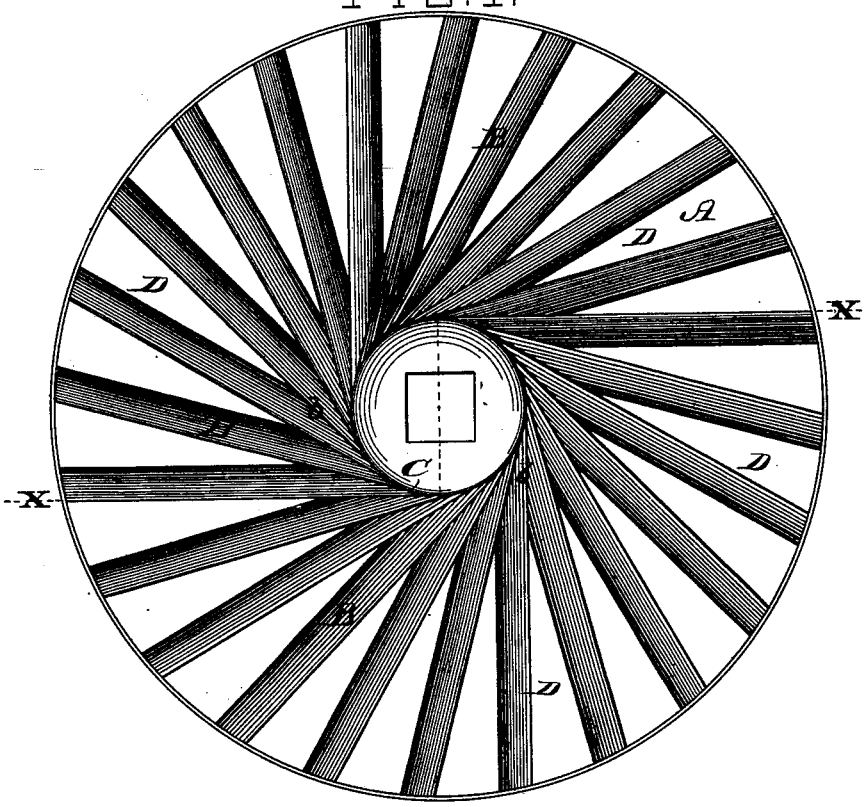
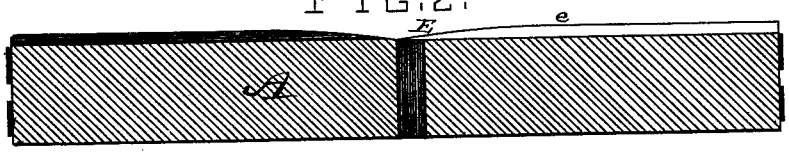


FIG. 2.



ATTEST.

Saml. S. Boyd

Paul Bakewell

INVENTOR.

William D. Odendahl

by Chas. D. Moody.

atty.

2 Sheets—Sheet 2.

W. D. ODENDAHL.
Millstone-Dress.

No. 206,963. Patented Aug. 13, 1878.

FIG. 3.

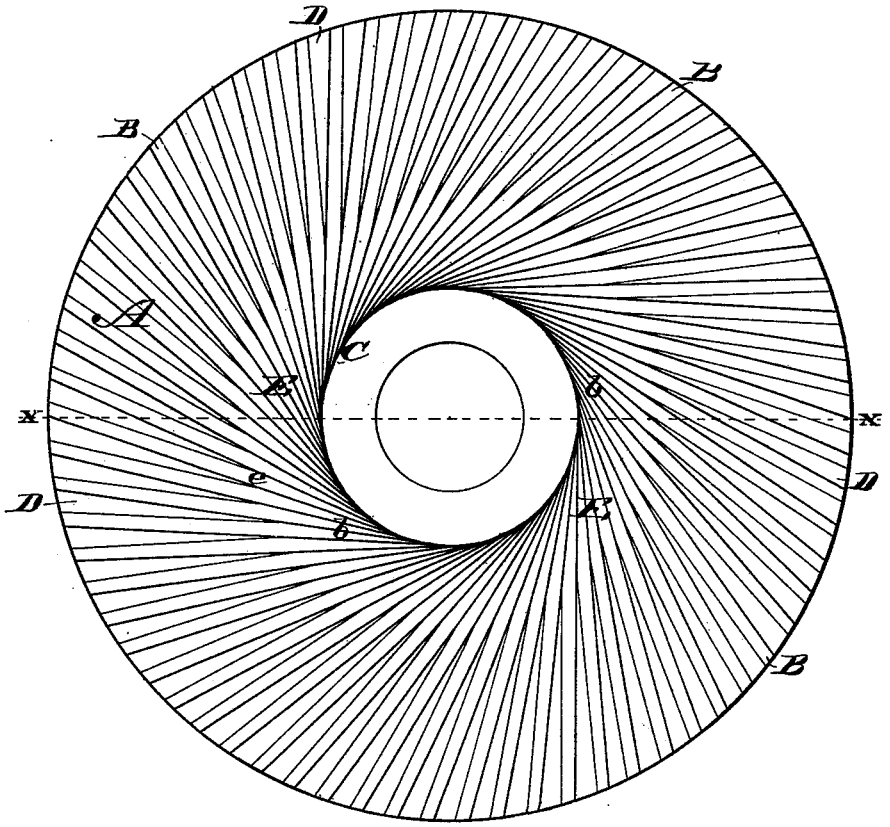
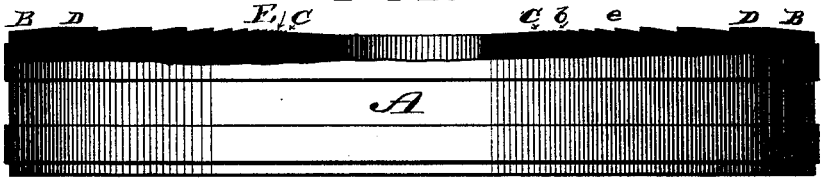


FIG. 4.



ATTEST.
Paul Bakewell
Edmund A. B. Baresché

INVENTOR.
William D. Odendahl.
by Chas. D. Maody.
atty.

UNITED STATES PATENT OFFICE.

WILLIAM D. ODENDAHL, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWO-THIRDS OF HIS RIGHT TO JOHN R. GRIFFITH AND WILLIAM A. ADAMS, OF SAME PLACE.

IMPROVEMENT IN MILLSTONE-DRESSES.

Specification forming part of Letters Patent No. **206,963**, dated August 13, 1878; application filed April 22, 1878.

To all whom it may concern:

Be it known that I, WILLIAM D. ODENDAHL, of St. Louis, Missouri, have made a new and useful Improvement in Millstones, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a plan or face view of a millstone having the improvement, the furrows being shaded; and Fig. 2, a cross-section taken on the line X X of Fig. 1. Fig. 3 is a plan view, with the furrows unshaded, and Fig. 4 a cross-section on the line *x x* of Fig. 3.

The same letters of reference denote the same parts.

My improvement has relation to the dress of the stone, the special aim being to provide for grinding winter wheat rapidly, and so as, while thoroughly cleaning the offal, to leave the flour well granulated and full of life, and also so as to leave a large amount of middlings.

Referring to the drawings, A represents a millstone having the improvement. B B B represent the furrows. They extend tangentially and symmetrically from the draft-circle C (which lies without and is concentric with the eye, as shown) to the skirt of the stone, and at and near the draft-circle they abut upon each other. At their inner ends they are narrowed to a point, and thence they widen gradually to the inner ends of the land portions D D D D of the stone. From this last-named point outward to the skirt the furrows are of uniform width and depth. The land portions D D D are similar in form and arrangement; but the essential feature in their construction is, that their inner ends come to a point and terminate between the skirt and the draft-circle, and thence widen gradually to the skirt.

The effect of this construction of the furrows and lands is that the bosom E of the stone extends to the inner ends of the land portions D D D, and that, in forming the furrows and land, as described, the bosom also is formed, without any further dressing being necessary.

The grain enters the furrows evenly, and is distributed evenly upon the stone.

A further advantage resulting from this mode of dressing a millstone is that there is no sudden change or break between the crushing and the grinding of the grain from the time it enters the bosom of the stone until it is discharged at the skirt. The edges *b b*, from the draft-circle outward to the periphery *e* of the bosom, serve to crush the grain first coarsely and then finer and finer, until it reaches the inner ends of the land. Then, by reason of the land portions being pointed at their inner ends, the crushed grain, after coming to them, is ground but very little at first, but more and more as the land portions widen, until finally at the skirt of the stone the operation is completed. The grinding thus proceeds evenly, and the grain becomes steadily finer and finer from the draft-circle outward to the skirt.

The steady even movement of the grain outward is further aided by the edges of the furrows being continuous and unbroken from the draft-circle outward to the skirt. The especial advantage, however, is derived from the dress, considered as an entirety. The furrows being extended, as described, and from a draft-circle that is considerably larger than the eye, the flour is discharged very rapidly; and the furrows being continued to the skirt, and the land not being practically continuous at the skirt, the flour is discharged in what is termed a "granulated" condition, and full of what is termed "life." At the same time, the crushing of the grain being initiated immediately at the draft-circle, and the grain from that point being crushed and ground steadily finer and finer until it reaches the skirt, the offal is very thoroughly cleaned. It enables the millstones to be adjusted to each other to suit any required style of grinding, either high or low.

If desired, the stones can be set so as to even touch each other, and be made to grind winter wheat, which is much softer than spring wheat, in the manner described; and I have in practice, with the dress in question, and with the stones closed together, produced as good results from an ordinary grade of winter wheat as are generally obtained from spring wheat, and by what in Minnesota is termed

"high-grinding," and in much less time than is required in the last-named manner.

I claim—

1. The millstone A, having the furrows B B B and the land portions D D D, the former beginning at the draft-circle C, (which lies without the eye, as shown,) and extending thence tangentially to the skirt of the stone, and being of uniform depth throughout their length, and narrowing to a point at their inner ends, and thence widening gradually to the inner ends of the lands, and thence of uniform width to the skirt of the stone, and the land portions having their inner ends pointed and terminating between the draft-circle and the skirt, and thence widening gradually to the skirt, substantially as shown.

2. A millstone, A, having furrows B B B, abutting upon each other at and near their inner ends, and extending from a draft-circle, C, (that is larger than and concentric with the eye of the stone,) tangentially to the skirt of the stone, and being pointed at their inner ends, and thence widening gradually to the inner ends of the lands, and thence of uniform width to the skirt, substantially as described.

3. A millstone, A, having furrows B B B, abutting upon each other at and near their inner ends, and extending from a draft-circle, C, (that is larger than and concentric with the eye of the stone,) tangentially to the skirt of the stone, and being pointed at their inner ends, and thence widening gradually to the inner ends of the lands, and thence of uniform width to the skirt, and the lands having their inner ends pointed and terminating between the draft-circle and the skirt, and thence widening gradually to the skirt, substantially as described.

W. D. ODENDAHL.

Witnesses:
CHAS. D. MOODY,
SAML. S. BOYD.