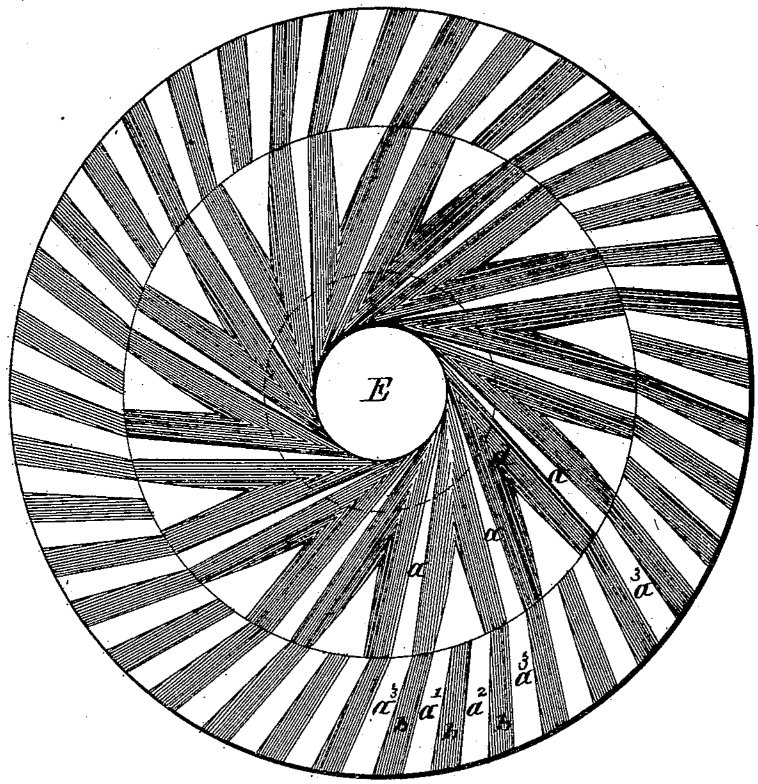
T. D. JONES.
Millstone Dress.

No. 205,556. Patented July 2, 1878.



WITNESSES:

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per E. Laass, Atty.

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UNITED STATES PATENT OFFICE.

THOMAS D. JONES, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN MILLSTONE-DRESSES.

Specification forming part of Letters Patent No. **205,556**, dated July 2, 1878; application filed April 13, 1878; patented in England, April 30, 1877.

To all whom it may concern:

Be it known that I, THOMAS D. JONES, of the city of Syracuse, in the State of New York, have invented new and useful Improvements in Millstone-Dresses, of which the following, taken in connection with the accompanying drawing, is a full, clear, and exact description.

This invention relates to improvements in that class of millstone-dress which are designed to prepare the grain for its final manufacture into flour by subsequent grinding.

The object of the invention is to prevent crushing and undue friction of the middlings, thoroughly clean all flour-yielding properties from the offal, and at the same time facilitate both the delivery at the skirt and the ventilation of the stones, thereby producing a comparatively greater amount and superior quality of middlings.

It also relates to a novel method of dressing the face of millstones, whereby the same is maintained in its natural grit and prevented from gumming and glazing.

The invention consists, first, in the hereinafter-described arrangement, disposition, and combination of the lands and furrows of a millstone, whereby the furrow-surface is made greatly predominant over the land-surface around the eye of the stone, and thus the ingress of the air thereat augmented, the grain, instead of being crushed and at once reduced to flour, is gradually decorticated, and, in a granulated state and with proper speed, conducted, with the air, to and uniformly distributed through the bosom-furrows, the passage of the middlings to the skirt-furrows is unimpeded, the delivery of same and the ventilation at the skirt facilitated, and the lands are so constructed and arranged as to completely clean all flour-yielding properties from the bran; second, in applying to the surface of the stone diamond-quartz in such quantity as to cover the said surface, and then subjecting the same to a direct rubbing or scouring action by means of a wooden block or other equivalent instrument, whereby the surface of the stone is stippled or filled with minute indentations, and which prevents gumming and glazing of same.

The first part of my invention is clearly illustrated in the accompanying drawing, which represents a face view of a millstone provided with my improved dress, the light portions representing the lands, and the dark or shaded portions the furrows, of the stone.

In the delineation of my improved dress, I describe two concentric circles from the center of the eye E, as indicated in the drawing, which circles will hereinafter be denominated first and second circles, respectively, the first being that near the eye E, and the second being described with a radius of about eleven-sixteenths that of the periphery of the stone, and constituting the outer periphery of the bosom of the stone. The stone is divided into what is termed "quarters" by the main lands *a* and a^3. These lands are arranged tangential from the eye of the stone to the aforesaid second circle, and from thence to the skirt their draft is increased by arranging them tangential to the first circle. They are made to nearly or completely vanish at the eye and widen with a uniform taper to the skirt, where they attain a width equal to one-fifth the space lying between them. This space, at the skirt, is divided into two lands, a^1 a^2, and three intervening furrows, *b b b*, of equal dimensions, and all arranged for draft given by first circle. The central furrow *b* is terminated at the second circle, and the two furrows adjacent to the main lands are intersected at the said circle by the bosom-furrows, which widen toward the eye and are brought to equal width at their junction with each other, so as to cause the intermediate land to terminate about midway the bosom of the stone, thereby producing a large open space around the eye, which materially augments the ingress of the air thereat. The air, receiving an accelerated outward movement by the tangential main lands, is, by the equal division of the two wide bosom-furrows, uniformly distributed over the face of the stone, and, finally, at the skirt, where the land-surface is increased and made equal to the furrow-surface, and consequently greater friction is produced, the ventilation is enhanced, and the delivery of the ground substance facilitated by an increased draft of the lands and furrows thereat.

The grain, at its entrance between the stones, is but slightly subjected to friction, and receives a rolling motion, by which it is gradu-

ally divested of the cuticle or hull, and becomes granulated by the time it reaches the increased land-surface. It thence is, like the air, in the manner before described, equally distributed through the branching furrows, and maintained distributed uniformly over the surface of the stone by the uniformity of the lands and furrows around the skirt, and is finally ejected at the skirt at an accelerated speed, imparted by the increased draft of the skirt-furrows and naturally increased motion of the stone at its periphery. During its passage through the latter portion of the millstone-dress the bran is completely cleaned of all flour-yielding properties by the increased land-surface.

I am aware that it has been customary to give the skirt-furrows increased draft; and I therefore do not claim this feature irrespective of the arrangement of the bosom-furrows.

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

1. The principal lands *a*, extended tangential from the eye E to the within-described second circle, and the bosom-furrows adjacent to said lands, widening toward the eye and terminating the intervening land central between the principal lands and midway the bosom of the stone, in combination with the skirt-furrows *b b b* and lands a^3 a^1 a^2, all of equal dimensions, and arranged tangential to the within-described first circle, the land a^3 constituting a continuation of the principal land extended from the eye, all constructed, arranged, and combined substantially in the manner described and shown, for the purpose set forth.

2. The within-described method of dressing the face of millstones, consisting in applying thereto diamond-quartz in such quantity as to cover the said surface, and then subjecting the same to a direct rubbing or scouring action by means of a wooden block or equivalent instrument, whereby the surface of the stone is stippled or filled with minute indentations, substantially as set forth.

In witness whereof I, the said THOMAS D. JONES, have hereunto set my hand and seal this 28th day of February, in the year of our Lord 1878.

THOMAS D. JONES. [L. S.]

In presence of—
FRANK WRIGHT,
ROBERT HOWDEN.