J. BROWN.

Grinding Mill for Grain.

No. 51,549. Patented Dec. 19, 1865.

Fig: 1.

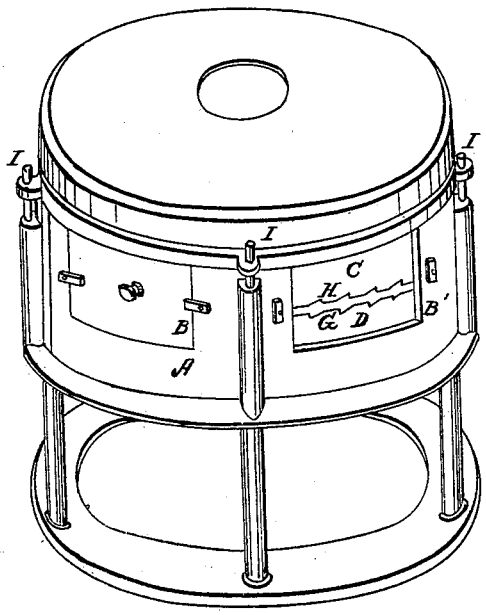


Fig: 2.

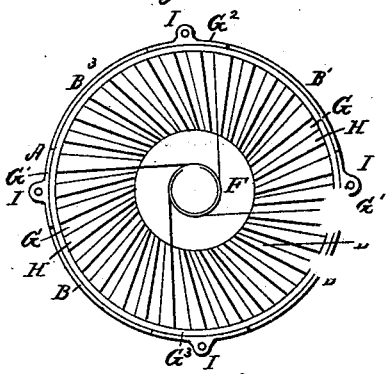
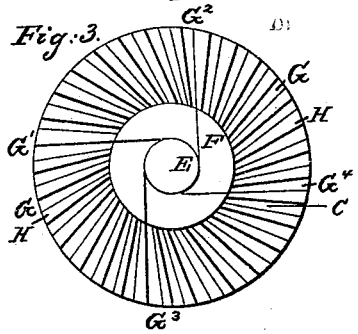


Fig: 3.



Witnesses:

A. H. Munson.
John F. Tucker.

Inventor:

John Brown.

UNITED STATES PATENT OFFICE.

JOHN BROWN, OF UTICA, NEW YORK.

IMPROVEMENT IN GRINDING-MILLS FOR GRAIN.

Specification forming part of Letters Patent No. **51,549**, dated December 19, 1865.

To all whom it may concern:

Be it known that I, JOHN BROWN, of the city of Utica, in the county of Oneida and State of New York, have invented a new and useful Improvement in Mills for Crushing and Hulling Wheat and other Grain.

The nature of my invention consists in the arrangement by which the miller is enabled to examine and regulate the distance between the stones and set them true while they are running without removing the casing, and in the peculiar dress of the stones; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the mill; Fig. 2, a plan of the under stone and casing; and Fig. 3 a plan of the dress of the stones.

A is the case. B B′ B^2 B^3 are openings in the sides of the case, with movable covers. C is the upper and D the under stone; E, the eye; F, a circle around the eye or center of the stones. G G are the furrows; H H, the lands. G′ G^2 G^3 G^4 are master-furrows extending to the eye, dividing the dress of the stones, including the circle F, into four equal parts; and I I I I are screws for holding the upper stone and casing in place.

The upper stone is stationary, and is kept in place by the screws I I I I, and the lower stone, which turns, is hung stiff, and is raised and lowered as in ordinary mills, or may be by any similar contrivance.

In a mill to crush and hull and at the same time not to grind the grain it is necessary that the stones should be kept at a proper distance apart, and that they should at all times run parallel. To determine whether they run true and to set the stones in other mills it is necessary first to remove the casing. To obviate this necessity and to enable the miller at any time to determine how the mill is running, I make openings in the case on a line with the junction of the stones B B′ B^2 B^3, so that by removing or sliding the covers thereof the position of the stones and the manner of their running may at any time be seen, and the miller can set them true while they are running.

The stones are adjusted and held in place by means of the screws I I I I, each having two nuts thereon, one of which is placed under and the other over each ear on the outer casing.

Both stones are dressed alike, the furrows and lands being equal in width—say for a thirty-inch stone, about one-half inch each in width at the wide end—and all are tangential to the outer edge of the eye, which eye is about five inches in diameter. The circle, F, is the same in both stones and is about two-fifths the diameter of the stones. The master-furrows G′, G^2, G^3, and G^4 extend to the eye and divide the dress, including the circle F, into four equal parts, as seen in Figs. 2 and 3, while all the other furrows are terminated at their inner ends by the outer edge of the circle F.

The surface of the circle F, on a line with the master-furrows G′ G^2 G^3 G^4, is depressed even with the bottom of such furrows, while the other parts of each division thereof curve and wind upward toward the next division, where they become even with the surface of the stones. In other words, the master-furrows G′ G^2 G^3 G^4 divide F into four equal parts, and the surface of each division is left unfurrowed, but is curved spirally upward, so that, while the right-hand end of the division which corresponds with one master-furrow is on a line horizontal with the furrows G G G G, the opposite or left-hand end of the division is horizontal with the lands H H H, or surface of the stone, as seen in Figs. 2 and 3.

Different dresses in stones for properly crushing and hulling grain are very necessary; for when the dress is the same and extending from the eye to the circumference of the stone, the grain is ground and floured, and not merely crushed and hulled, as is desirable. By making the inner part, as at F, nearly plain the grain is cut but little until it reaches the outer furrows, where it is more evenly crushed and hulled.

The operation and effect of the said circle so constructed, in connection with the master-furrows so arranged, is to cause the grain to pass more evenly between the stones, and the uniformity of dress causes it to be more evenly hulled than any other form.

I claim—

1. The apertures B B′ B^2 B^3, in combination with the means of adjusting the stones, substantially as described.

2. The dress of the stones, consisting of the master-furrows G′ G^2 G^3 G^4, and the lands H H, in combination with the dress of F, substantially as described.

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Witnesses:

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