J. W. KANE.

Millstone Dress.

No. 9,192. Patented Aug. 10, 1852.

Fig: 4.

Fig: 1.

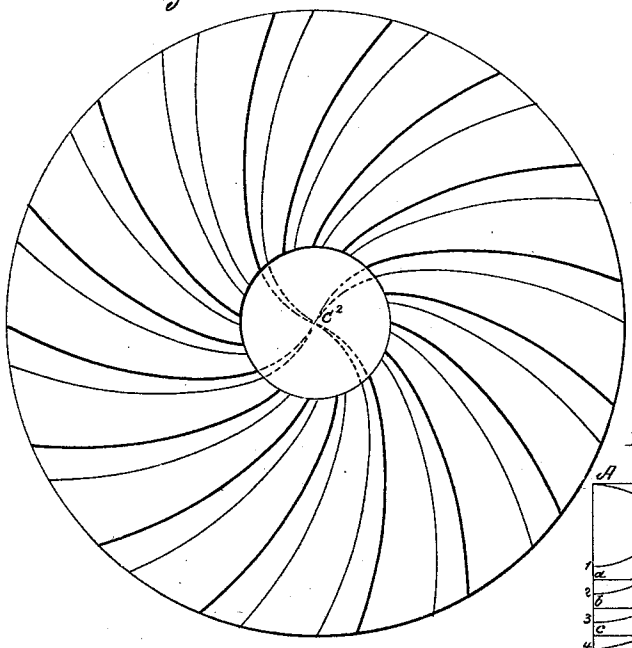


Fig: 2.

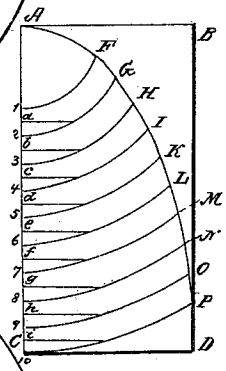


Fig: 5.

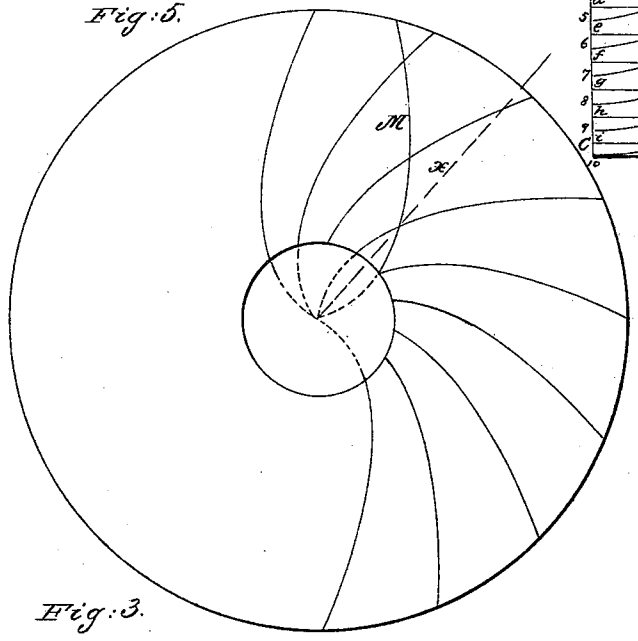
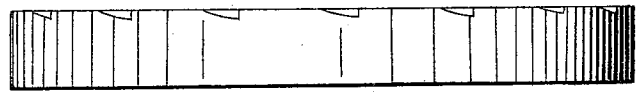


Fig: 3.



UNITED STATES PATENT OFFICE.

JOHN W. KANE, OF NEW CARLISLE, OHIO.

MILL-DRESS.

Specification of Letters Patent No. 9,192, dated August 10, 1852.

To all whom it may concern:

Be it known that I, JOHN W. KANE, of New Carlisle, in the county of Clark and State of Ohio, have invented a new and useful Mode of Dressing Millstones for Grinding Grain, which is described as follows, reference being had to the annexed drawings, making part of this specification.

Figure 1 is a plan of a four foot stone showing the furrows and lands. Fig. 2, represents a pattern or board previously prepared by which the lines circumscribing the furrows are laid down upon the face of the stones. Fig. 3, is an edge view of the runner showing the outlets of the furrows. Fig. 4, is an edge view of the bedstone showing the shallow dress thereon. Fig. 5, represents several of the edges of the lands of the bedstone, and a radial line with a supposed edge of the furrow of the runner passing over them for the purpose of exhibiting their angle at the points where they pass the radius.

The nature of my invention consists in the application to mill stones of a dress of a peculiar curvature, all the furrows and lands passing from the center in an inflected curve to the verge of the stone, with their cutting edges passing during the operation of grinding, a radial line at an equal angle at all the points where they pass the radius from the center to the verge of the stone with a depth of furrow in the runner to produce a draft of air of sufficient repulsion to emit the flour sufficiently dry and cool for an immediate separation from the bran.

Having dressed the grinding surfaces of the stones even and true I prepare a pattern by which I lay down the lines of the furrows. I take a board in length about equal to the semi-diameter of the stone—say two feet and in width about 20 inches. The longer side of this board I divide into twenty four equal spaces of one inch each. The first six inches are taken for the radius of the eye of the stone as from A to No. 1 of Fig. 2. With the dividers open six inches and one leg at A, I scribe the segment of a circle 1 to F corresponding to a segment of the eye. I next open the dividers twenty-four inches and from the same point A I scribe the segment 10 to P, corresponding to a segment of the circumference of the stone. The space between 1 and 10 I divide into 18 equal parts—each being 1 inch. The spaces or divisions I number and letter in the manner represented in Fig. 2. From the point A I scribe the segments 1, 2, 3, 4, 5, 6, 7, 8, 9—each 2 inches apart. From the intermediate points lettered *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*—I draw parallel lines. To scribe the segment A, F, I open the dividers 8 inches and place one leg at No. 2 and scribe the segment A, F. With one leg of the compasses at *b* and the other at F, I scribe the segment F, G. Then with one leg at No. 3 and the other at G, I scribe the segment G, H. From the point *c*, I next scribe the segment H, I. Then from the point *d*, I scribe the segment I, K. Next from No. 5, scribe the segment K, L. From No. 6, draw the curve L, M. From *f* scribe the line M, N. From *g*, lay down the curve line N, O. From No. 8, draw the line O, P, and finally from *h*, scribe the line P, D. This completes the curve line of the required furrow. The portion of the board A, B, C and D, outside of this curve line being removed, the pattern is formed by which the lines of all the furrows are laid down.

Having divided the circle of the stones into as many equal parts as I desire to have lands in the dress I place the pattern upon the stone with the angle A. At the center C^2 and the curved edge at the divisions of the circle and draw corresponding lines for the lands, until all the lines for the lands are drawn upon the bed and runner exactly alike. I then set the compasses on the circle of the stones at those divisions, open $\frac{1}{3}$ of the space of one of the divisions and point off a furrow from each division until there is a corresponding furrow to every land. I then place the pattern upon the stones with the angle A, at the center C^2 and the curved edge against those last divisions and draw the lines for the furrows corresponding with those drawn for the lands until all the lines for the furrows are drawn upon the bed and runner exactly alike, so that when placed for grinding, the edges will pass at the required angle from a radial line X, at all the points from the center to the verge, shown by curve M′, an edge of the running stone passing over several edges of the bed, Fig. 5, to show their angle. I then cut the back of the furrows in the bed equally $\frac{1}{16}$th part of an inch deep from the eye to the verge curving the bottoms up to an edge at the surface of the lands, as shown at Fig. 4—

thus bringing the entire surface of the bed up to an operating surface upon the grain. I cut the back of the furrows in the runner from $\frac{3}{8}$ths to $\frac{1}{2}$ inch deep next the eye and $\frac{5}{8}$ths $\frac{3}{4}$ths of an inch deep at the verge, and of a triangular and curved form, as represented at Fig. 3—being thus shaped to produce a current of air through the furrows of the runner of sufficient draft to prevent the stones from being heated and to cause them to emit the flour sufficiently dry and cool for immediate separation from the bran, if the grain is in ordinary condition for grinding. In grinding damp grain or grain containing smut, viscous or foreign matter the furrows in the runner should be from $\frac{1}{2}$ inch to $\frac{3}{4}$ths deep next the eye and $\frac{7}{8}$ths or one inch deep at the verge, increasing the quantity and draft of air circulated through the stones with the flour, securing it from being heated, or otherwise injured, in the operation of grinding.

I do not claim a circular mill stone dress in which the furrows are arcs of circles swept from a single center—but

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

The particular mill dress represented in Fig. 1, and laid down by the pattern shown in Fig. 2, constructed and arranged as described, or in any manner substantially the same.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JOHN W. KANE.

Witnesses:
JOHN L. SMITH,
JOHN H. WALTER.