(No Model.)

G. W. KOLFRAT.

MILLSTONE DRESS.

No. 562,306. Patented June 16, 1896.

Fig. 1.

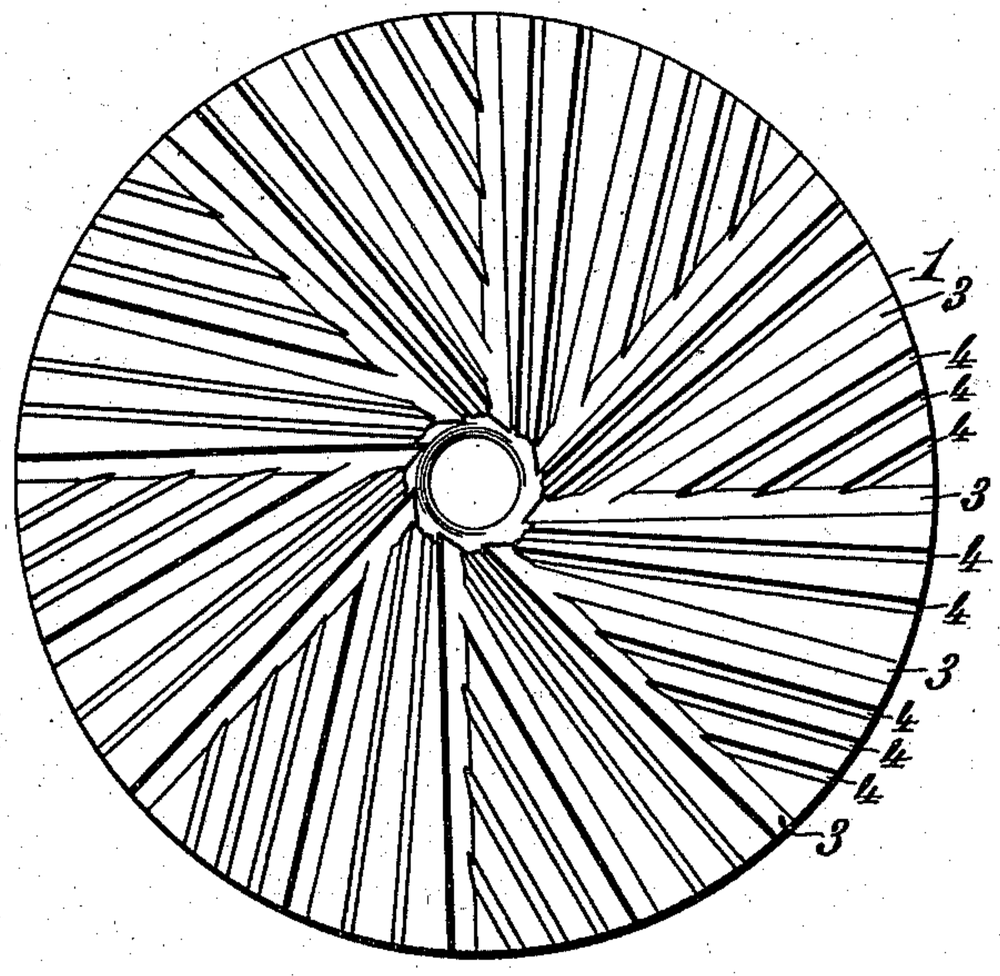


Fig. 2.

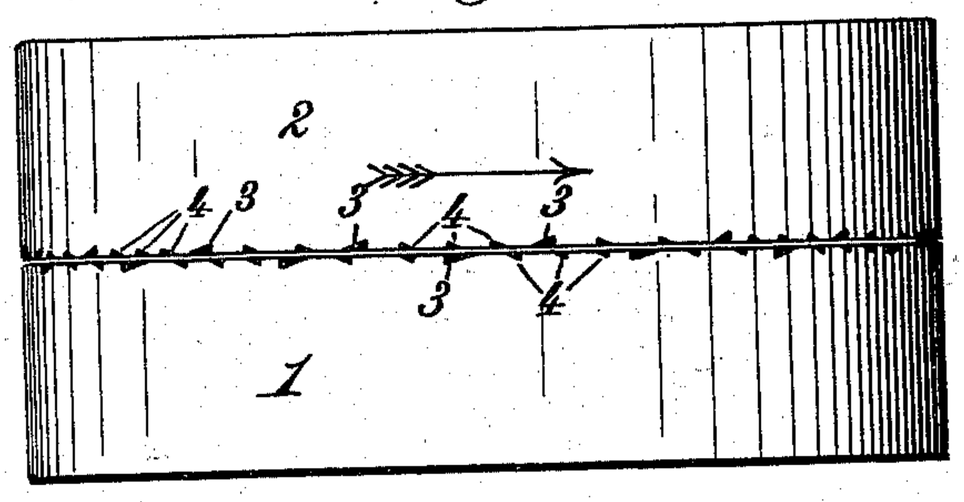
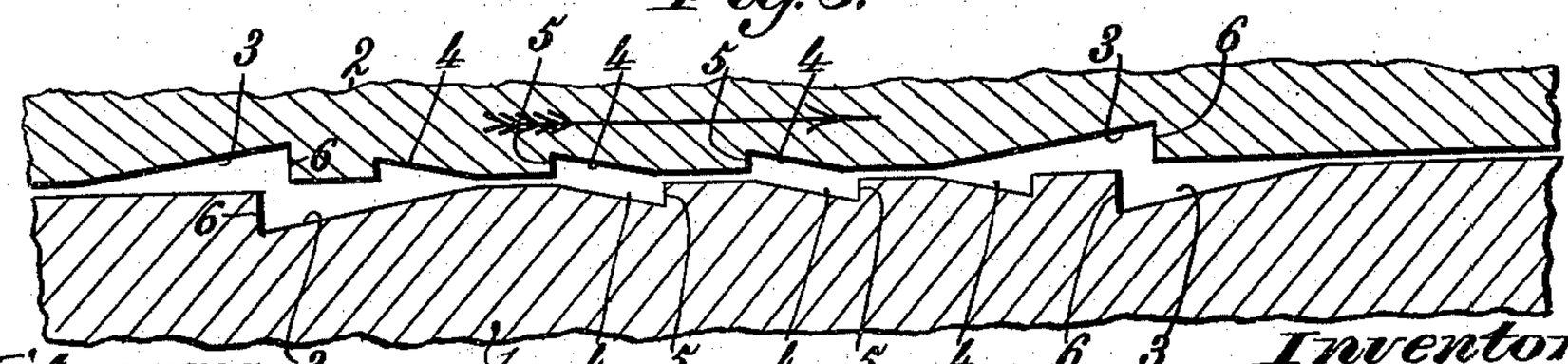


Fig. 3.



Witnesses.
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Dennie Sumby.

Inventor.
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By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. KOLFRAT, OF WARREN, PENNSYLVANIA.

MILLSTONE-DRESS.

SPECIFICATION forming part of Letters Patent No. 562,306, dated June 16, 1896.

Application filed February 18, 1896. Serial No. 579,808. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. KOLFRAT, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented new and useful Improvements in Millstone-Dress, of which the following is a specification.

This invention relates to millstone-dress and has for its object such arrangement and dress of the furrows in the runner and bedstone as will promote a more rapid and economical milling action than is usually possible with millstones of ordinary construction.

In millstones of the usual make, it is customary to give the same inclination or bevel to the bottoms of all the furrows or grooves in either the runner or the bedstone.

For the purpose of improving the dress of millstones and to facilitate a rapid, thorough and economical grinding, my invention consists in a millstone provided with series of comparatively deep main furrows that are all dressed in one direction and series of comparatively shallow furrows, intermediate the main furrows, and all dressed in a direction opposite to the dress that is given to said main furrows.

In the annexed drawings, Figure 1 is a plan of a millstone that is dressed in accord with my invention. Fig. 2 is an elevation of the bedstone and runner. Fig. 3 is an enlarged vertically sectional detail view of a bedstone and runner having my improved millstone-dress.

The reference-numeral 1 designates the bedstone, and 2 the runner. In the grinding-face of each millstone 1 and 2 there are provided the usual main furrows 3, the bottom surfaces of which are all bevel-dressed or inclined in one and the same direction, around the millstone. Now, according to my invention, I bevel or incline the bottom surfaces of all the intermediate furrows 4 in a direction contrary to the direction of bevel-dress given to the main furrows. The main furrows 3 are comparatively deep and the intermediate furrows 4 are comparatively shallow. The bottoms of the two sets of furrows are beveled or dressed in opposite directions and either to the right or left, respectively, according to the direction of rotation to be given to the runner. The dress of both millstones 1 and 2 being alike, it is obvious that when the runner is in grinding position the inclination of the bottom surfaces of its furrows will be opposed, in each set of furrows, to the inclination of the corresponding sets of furrows in the bedstone. Thus the direction of dress in each millstone or grinding-surface is such that when the runner is set in position and rotated in the direction proper for the bevel of the shallow intermediate furrows 4, the shoulders 5 at the deep sides of said intermediate furrows will be opposed in action, as shown in Fig. 3, one moving toward the other and thus effecting a rapid, thorough and economical grinding of the grain that is being milled. It will also be observed that in the dress of the millstones the shoulders 6, Fig. 3, at the deep sides of the main furrows 3 are in such relation that the shoulders 6 of the main furrows in the runner will move away from the corresponding shoulders of the main furrows in the bedstone when the mill is in operation; and by this arrangement of the main furrows 3 the clearance or out-feed of the meal is greatly facilitated.

The opposing dress of the main furrows 3 and intermediate furrows 4 is capable of being produced as easily as the dress that is usually given to millstones and like grinding-surfaces. By the opposing action of the shoulders 5 at the deep sides of the intermediate furrows 4 there is accomplished a cutting of the grain, as well as grinding, so that its reduction to meal is more quickly and thoroughly effected. The opposing dress of the main furrows and intermediate furrows also contributes to rapidity of grinding by reason of the increased facilities thus provided for the feeding out of the meal. When the millstones are worn, they may be redressed without difficulty.

What I claim as my invention is—

1. A millstone having its grinding-surface provided with series of deep main furrows and series of shallow furrows intermediate the said main furrows and in which the bevel at the bottoms of the shallow intermediate furrows is in a direction opposed to the bevel at the bottoms of the main furrows, substantially as described.

2. The combination, in a milling-bedstone and its runner, of the main deep furrows and the intermediate shallow furrows having the

dress in each of the said intermediate furrows opposed to the dress of the main furrows in each millstone, and the shoulders on the deep sides of the intermediate furrows in the runner opposed in operation to the shoulders on the deep sides of the intermediate furrows in the bedstone, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEO. W. KOLFRAT.

Witnesses:
JAMES L. NORRIS,
THOS. A. GREEN.