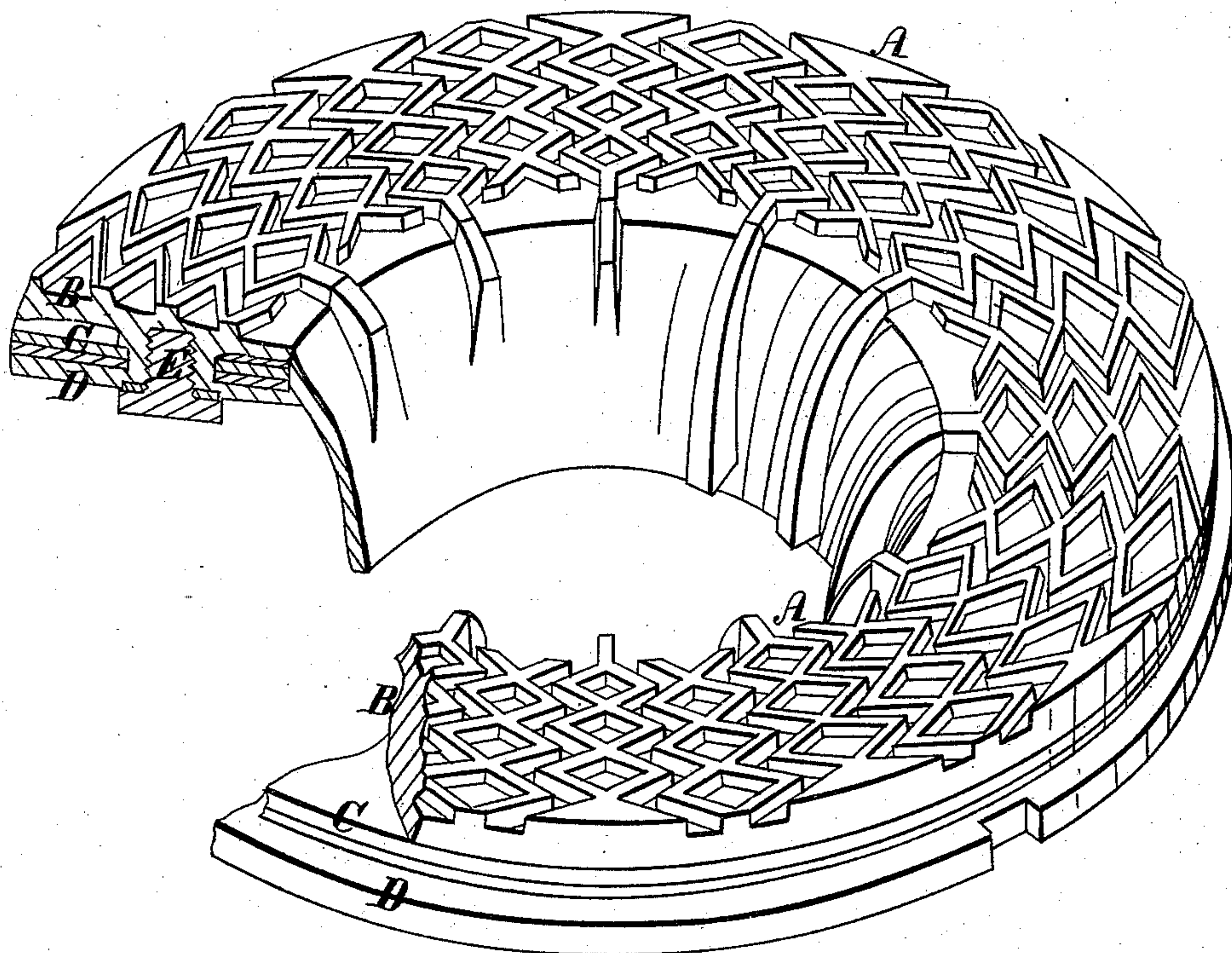


SHAW & LEAVITT.
Grinding Plate for Mills.

No. 79,865.

Patented July 14, 1868.



WITNESSES:

H. S. Blood
H. K. Jenkins

INVENTOR.

Henry Shaw
W. Leavitt

United States Patent Office.

HENRY SHAW AND WILLIAM D. LEAVITT, OF NEW ORLEANS, LOUISIANA.

Letters Patent No. 79,865, dated July 14, 1868.

IMPROVEMENT IN GRINDING-PLATES FOR GRIST-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, HENRY SHAW and WILLIAM D. LEAVITT, of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a certain new and useful Improvement in Cast-Iron Grinding-Plates for Grist-Mills; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, on which is delineated a perspective view of one of the grinding-plates of a cast-iron grist-mill, with a part broken away in order the more clearly to exhibit the most important features of our invention.

Our invention has for its object the prevention of the injurious and often destructive effects caused to the meal by the heat generated in all mills through the friction of the rubbing-surfaces of the two opposing plates during the operation of grinding; and we attain this object by constructing each of the two grinding-plates in two parts, viz, a grinding-face plate, and a back or supporting-plate, with an intermediate part or packing of unyielding and non-conducting properties, so that the two grinding-faces will consist of thin plates, and so that such heat as is generated by the friction caused in grinding, being prevented from communicating to the remaining part of the plate, or any other part of the mill, or, in other words, being confined to the thin grinding-face, will pass off with the meal as fast as the latter is ground, and before a sufficient quantity of heat is generated or accumulated to injure the meal.

Another feature of our invention, having in view the furtherance of the same object, is the peculiar "dress" of the grinding-faces of our plates, which consists of a system of diamond-shaped projections, which radiate in rows or lines from the centre of the face-plate, and are so arranged that in the revolution of the "running-plate" against the stationary one, a multitude of cutting-edges is created, which come together after the manner of the blades of a pair of shears, and so cut the grain, instead of crushing or breaking it, as is the case in most mills. It will readily be seen, that this shearing or cutting process reduces, to a certain extent, the tendency to overheating, by reducing the friction of the plate against the grain.

But our invention will be better understood by referring to the drawing, on which A represents the diamond-shaped "dress" upon the thin grinding-face, B, of the plate. C is the non-conducting, unyielding intermediate packing, which may be composed of gasket, paper, or any other substance having unyielding and non-conducting properties. D is the back part or supporting section of the grinding-plate, to which the face-plate B is secured by strong screw-bolts (shown at E in the drawing) passing through and confining in its position the intermediate packing C, the whole forming, when screwed up, a strong and compact grinding-plate.

The drawing shows only one of the grinding-plates, but it will be understood that in each mill there is another plate precisely similar to the one shown in the drawing as to its "dress" and sectional or divisional construction.

Having thus described our invention, we claim, and desire to secure by Letters Patent—

The combination and arrangement of the cast-iron grinding-plate B, having diamond-shaped projections A, the unyielding, non-conducting paper packing C, and back plate D, all constructed and secured together in the manner and for the purpose herein described.

HENRY SHAW,
W. D. LEAVITT.

Witnesses:

H. S. BLOOD,
H. N. JENKINS.