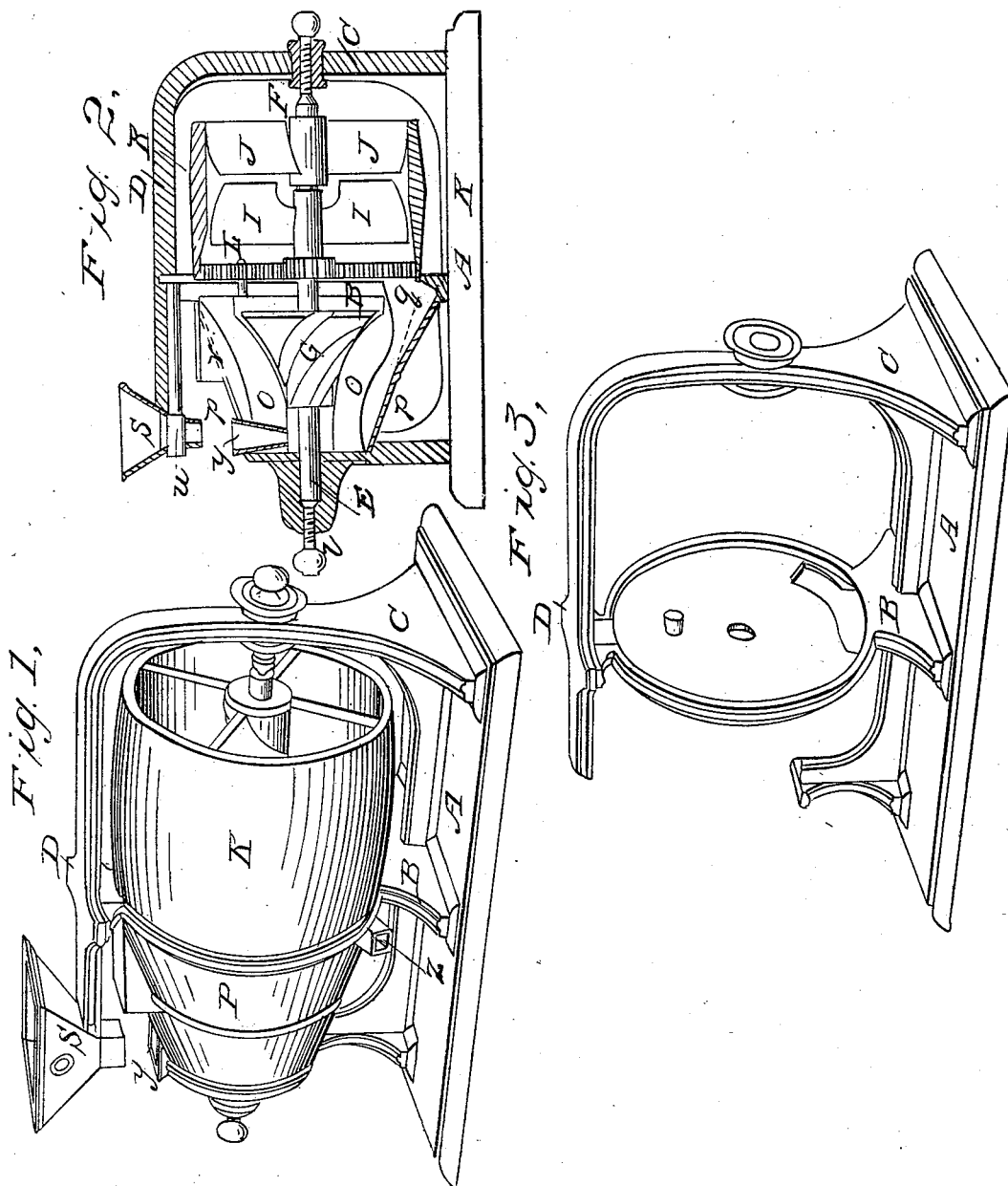


E. HARRISON.  
Grinding Mill.

No. 5,374.

Patented Nov. 20, 1847.



# UNITED STATES PATENT OFFICE.

EDWARD HARRISON, OF NEW YORK, N. Y.

## MILL FOR GRINDING.

Specification of Letters Patent No. 5,374, dated November 20, 1847.

*To all whom it may concern:*

Be it known that I, EDWARD HARRISON, of the city, county, and State of New York, have invented a new and useful Mill for Grinding Corn and Grain; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, of which—

Figure 1, is a perspective view, Fig. 2 a sectional side view showing the interior; Fig. 3 a perspective view of the frame work and mountings.

The principal peculiarities and improvements consist in the arrangement by which a strong current of air is passed in contact with the external surface of the stationary grinder to prevent it from heating.

The frame for the support and mounting of the mill consists of a base or bed-plate A, two posts B and C, and a horizontal beam D: the post C and the beam being united by a curve. On a horizontal shaft,—

E F Fig. 2,—is mounted a running grinder G, a hollow shaft H, and two sets of oblique fans I and J, the obliquity of which two sets, are inverse to each other, the fans J are attached to the main shaft E F, and the other set (I) are attached to the hollow shaft H. These fans are inclosed in a hollow cylinder K, which constitutes the drum or pulley which is prepared to receive the band by which the mill is put in motion; the fans J constituting the arms by which the periphery of the cylinder is supported.

To the interior of the end of the cylinder toward the grinders, is attached a gear circle (*m, m*, Fig. 2) the teeth of which point inward and take to the teeth of a gear wheel L which is attached by an axle pivot to the post B; and the teeth of this wheel take to those of another gear wheel on the hollow shaft H, thus giving to the hollow shaft a motion contrary to that of the main shaft and cylinder.

The external and stationary grinder (represented *o o*, Fig. 2), is of a shape conforming to the shape of running grinder; and over this is a conical casing (P Figs. 1 and 2) which is attached by screws to the post B, and is of a size to fit closely to the two ends of the stationary grinder, but admitting a space of an inch or more between the casing and the grinder in the central part, or midway between the two ends. The space between the casing and the grinder constitutes a wind channel and communicates with the interior of the cylinder by an aperture at *q*; and the blast of air produced by the fans escapes by another aperture at *r*, and drives off the chaff and dust from the descending grain. The shaft E F is mounted on the centers of two screws *t t* whereby the running grinder is adjusted. A hopper *s* is mounted on the end of the beam D and a feeding roller *u v* is placed under the beam passing through the lower section of the hopper and is put in motion by a small wheel *v* the periphery of which presses upon that of the cylinder K. The grain descending from the hopper enters the mill by the aperture *y* passing through the current of wind from the blower; and the meal is discharged by the spout *z*. The frame, and mill-casing are made of cast iron. The grinders may be made of cast-iron, natural stone, or the composition known as bur-stone.

Now what I claim as my invention, and wish to secure by Letters Patent, is—

The combination of the fan-drum with the stationary grinder and casing in a manner, substantially as herein described, to cool the mill, and clean the grain.

E. HARRISON.

Witnesses:

HENRY WALES,  
JARVIS G. FARRAR.