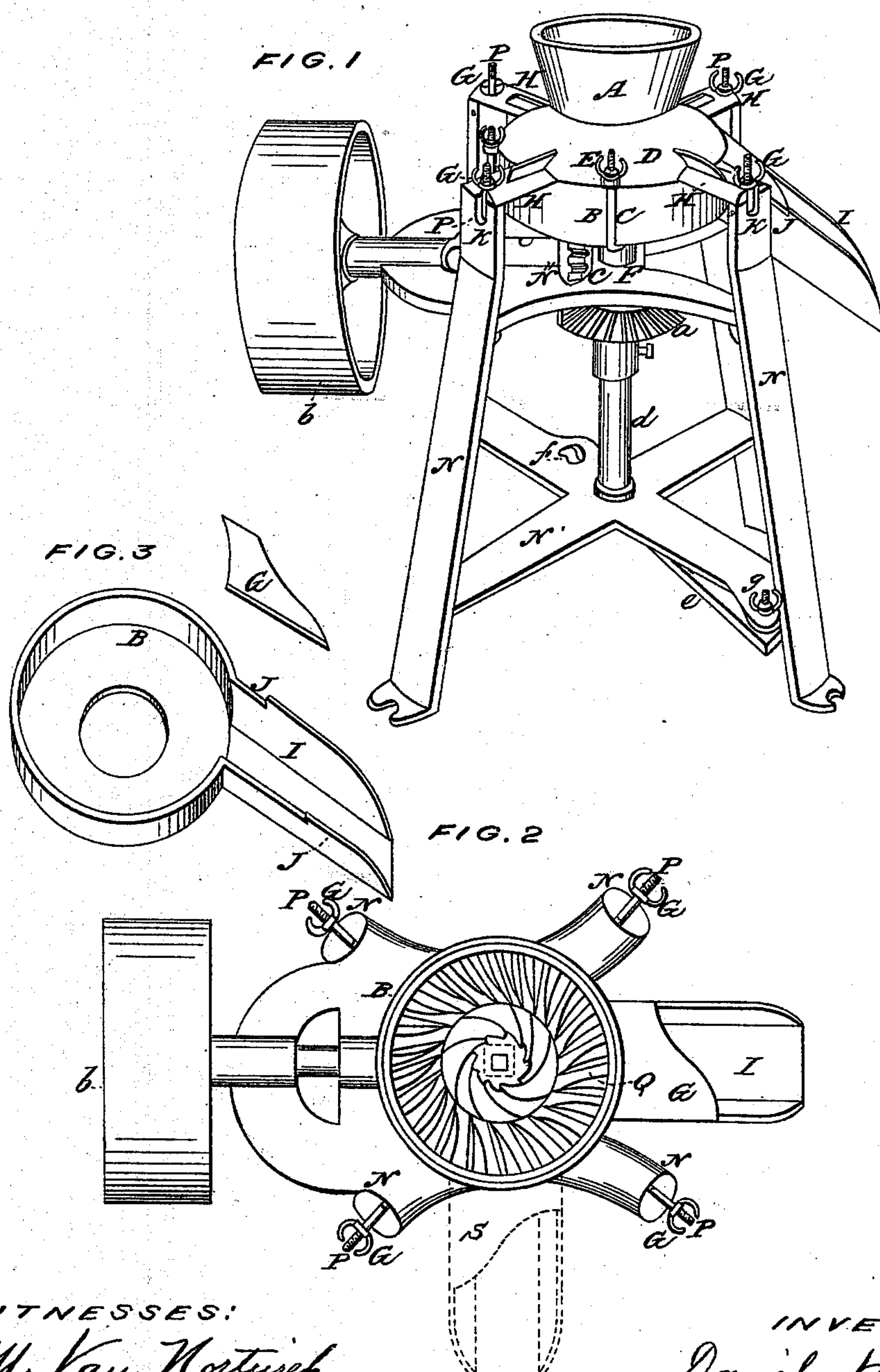


D. HALLADAY.  
Grinding Mill.

No. 105,448.

Patented July 19, 1870.



WITNESSES:  
Wm M Van Nortwick  
H. M. Wade.

INVENTOR:  
Daniel Halladay,  
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G. P. Chopin



# UNITED STATES PATENT OFFICE.

DANIEL HALLADAY, OF BATAVIA, ILLINOIS.

## IMPROVEMENT IN GRINDING-MILLS.

Specification forming part of Letters Patent No. 105,448, dated July 19, 1870.

*To all whom it may concern:*

Be it known that I, DANIEL HALLADAY, of Batavia, in the county of Kane and State of Illinois, have invented an Improved Grinding-Mill; and I do hereby declare that the following is a full and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings and letters marked thereon, making a part of this specification, in which—

Figure 1 is a perspective representation of my improved grinding-mill; Fig. 2, a plan or top view of the same; Fig. 3, a perspective representation of the combined lower case and spout.

The present invention relates to what is known as a "portable grinding-mill;" and its nature consists in the novel construction of the spout, as combined with the lower case, the arrangement being such that the spout can be placed parallel and at right angles with the drive-shaft for the convenience of discharging the ground substance.

The frame consists of inclined standards N and a rectangular cross-tree, N', said frame being, as shown, conveniently arranged to support the grinding devices hereinafter described. An upper bridge-tree, N'', is also a part of this frame-work, fastened to the standards N, and it, in the ordinary manner, supports the gearing *a b c*, for driving the grinding-plate Q, in the usual manner. Nothing, however, is claimed to be new in the said frame, the above description being given simply to enable others to build the mill on the most economical plan.

*d* represents a vertical spindle, which passes through the cross-tree N', and has a bearing or step in an adjustable lever, *e*. This lever is jointed to the cross-tree N' at *f*, and it is so adjusted, by means of a set-screw and screw-rod, *g*, Fig. 1, that the said spindle may be conveniently raised and lowered in order to bring the grinding-plate Q properly up to the grinding-case D, so that grain may be ground to any desired degree of fineness.

Above the gearing *a c*, and beneath the grinding-plate Q, is placed a case, B, which

has a flange extending up to the grinding-case D, to which it is secured by means of two or more clamps, C, and nuts F, Fig. 1. The grinding-case D is provided with arms H, which rest upon the tops of standards N, and are so slotted out at their ends that screw-clamps P G, pivoted to the top parts of said standards, may be swung outward, so as to allow the grinding-case D to be readily removed for repairing the mill, and other purposes, as the case may require. The case B is provided with a spout, I, and it is so arranged that it may be turned under the grinding-plate Q, Fig. 2, so as to bring the spout I between any two of the standards N, except those two next the drive-pulley *b*. This arrangement is made for the convenience of discharging the ground substance where it can be best disposed of.

On the flanges or sides of the spout, at J, are made notches, in order to support the lower part of a cover, G, which is held in place at its upper edge by extending under the grinding-case. The object of this cover is to prevent the ground substance from being thrown out of the spout and getting into the gearing of the mill or wasted, and as the mill is to be made of metal, the present manner of arranging the spout, lower case, and cover is very convenient and simple, as is also the means for raising the spindle *d*, as it is arranged with reference to the frame and lever *e*.

In the foregoing it will be seen that the entire mill has been described, so as to enable others to fully comprehend the construction and position of the spout.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The reversible spout I, arranged with a lid, G, which fits into notches J, in combination with the grinding-case B D, when arranged with reference to the grinding-plates and other parts of the mill as set forth.

DANIEL HALLADAY.

Witnesses:

WM. M. VAN NORTWICK,  
H. W. WADE.