Sheet 1-2 Sheets.

J. N. Walker.

Metallic Burr.

No. 7,862. Patented Dec. 24, 1850.

Fig: 1.

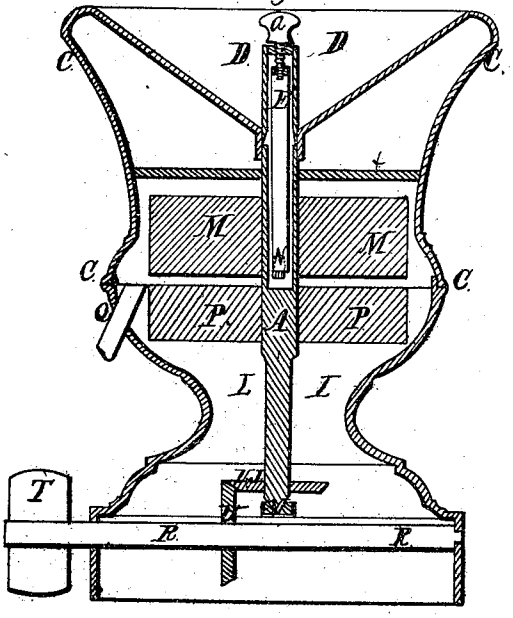
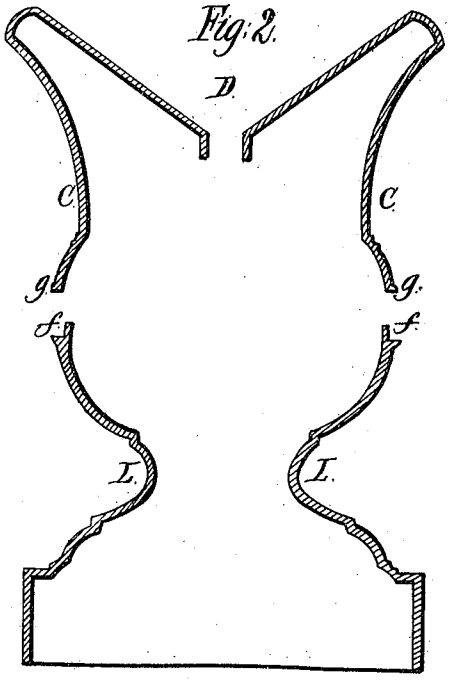


Fig: 2.



Sheet 2-2 Sheets.

J. N. Walker.

Metallic Burr.

No. 7,862. Patented Dec. 24, 1850.

Fig: 3.

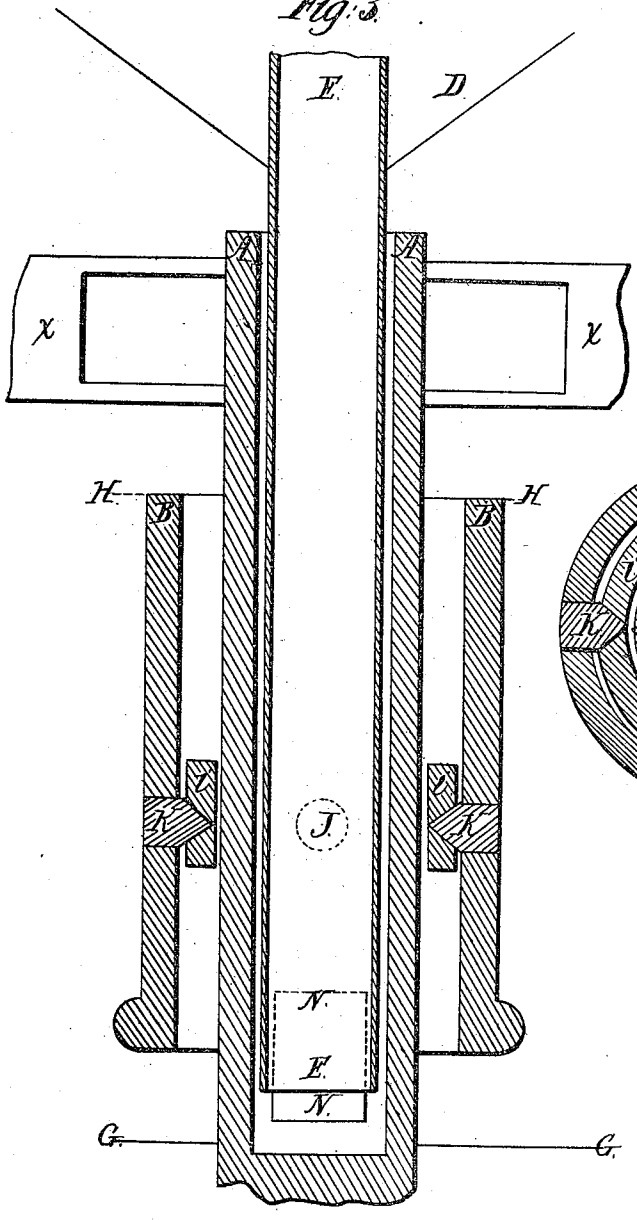
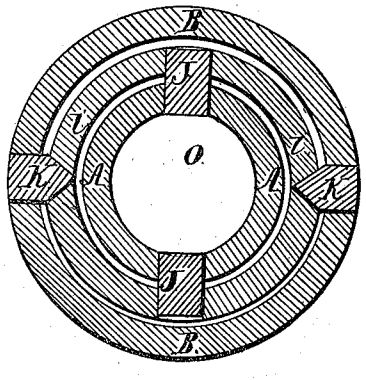


Fig: 4.



UNITED STATES PATENT OFFICE.

JOSEPH N. WALKER, OF CINCINNATI, OHIO.

MILL FOR GRINDING.

Specification of Letters Patent No. 7,862, dated December 24, 1850.

To all whom it may concern:

Be it known that I, JOSEPH N. WALKER, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Portable Mills for Grinding Grain and other Material; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of the same, in which—

Figure 1 is a vertical section through the mill; Fig. 2, is a vertical section through the hopper and hoop; Fig. 3, is an enlarged section through the spindle and bush; Fig. 4, is a top view of the spindle and bush; Fig. 5, is a vertical section through the casing or husk.

The nature of my invention consists in constructing a portable mill with the shell of cast iron, and so arranged as to keep the entire inside clear of dirt or dust, and at the same time have easy access to the machinery within.

On a shaft R R, Fig. 1, which has its bearings in the base of the mill, I place a pulley T, over which a band is passed to give the shaft motion by horse, steam, water or other power. Within the base or husk of the mill, and on the same shaft R, I place a bevel-cog-wheel U, which meshes into another bevel-cog-wheel U′, on the spindle, which gives motion to the spindle and runner-stone M, which is elevated the proper height above the bed-stone P, by means of an ordinary bridge-tree. The spindle A, Fig. 1, is made hollow and bored out smooth as far down as G, Fig. 3, the line of the grinding surface of the stones. At N, (in the aforesaid spindle) Figs. 1 and 3, is an opening for the grain to pass through to the grinding surfaces of the stones. A similar opening is made on its opposite side.

E. E, Figs. 1 and 3, is a tube inserted into the spindle A, and descends to the bottom of the openings N. This tube is raised or lowered by means of a set screw *a*, thus opening or closing the space or opening N, through which the grain or other material to be ground is thrown by the centrifugal force of the revolving spindle, evenly between the grinding surfaces of the stones.

B, B, B, B, Figs. 3, and 4, is a cast iron bush forming the eye of the stone, into which is inserted two pins or centers K, K, projecting from opposite sides toward the center. On these pins are hung a ring or gimbal *i*, *i*, *i* Figs. 3 and 4, which rests upon two pins J, J, projecting from opposite sides of the spindle, thus suspending the runner stone M, Fig. 1, to the spindle by an universal joint, and which performs the threefold office of balance-rine, driver, and cock-head. Above the runner stone is a support *x*, Figs. 1, and 3, for steadying the spindle, and which also serves as an upper bridge-tree for it.

As the meal or other material ground passes from the stones, it circulates around the recess left in the casing for that purpose, and is delivered at the opening or spout Q.

On the case or husk L, L, which is cast in one piece, are the flanges *f*, *f*, into which corresponding projections *g*, *g*, in the hoop C, C, Fig. 2, fit and may be secured by screws passing through the flanges if found necessary. This would only be necessary when the bottom stone is made the runner and the top one the bed stone.

D, D, Fig. 1, represents the hopper, which is cast in one piece with the hoop C, C, thus making but two pieces of the entire shell of the mill.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is the—

Combination of the hollow spindle A, feeding tube E, and adjustable screw *a*, with the gimbal *i* when said gimbal is placed above the opening through which the grain or other material to be ground passes to the surfaces of the stones as herein fully set forth and represented for the purpose of having an uninterrupted feed through and past the gimbal.

JOSEPH N. WALKER.

Witnesses:
A. B. STOUGHTON,
WM. H. BRERETON.