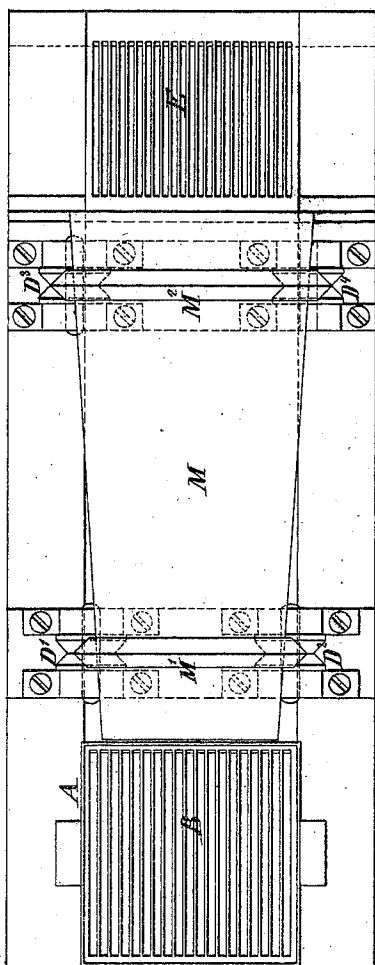


G. H. REYNOLDS.
Improvement in Ore-Washers.
No. 131,373. Patented Sep. 17, 1872.

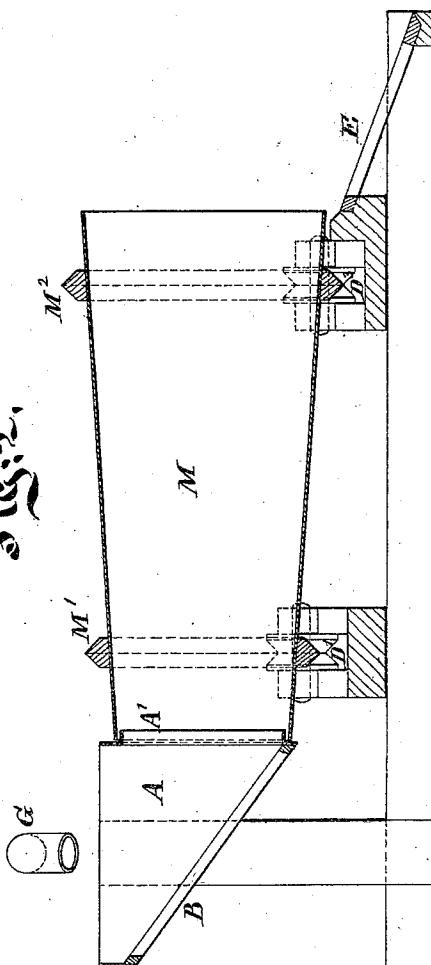
Fig. 1.



Witnesses:

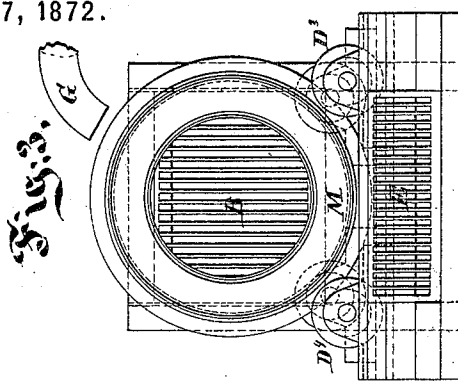
Amos W. Cornman
Wm. C. Dey

Fig. 2.



Inventor:

George H. Reynolds
by his atty J. D. Weston



UNITED STATES PATENT OFFICE.

GEORGE H. REYNOLDS, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND CORNELIUS H. DELAMATER, OF SAME PLACE.

IMPROVEMENT IN ORE-WASHERS.

Specification forming part of Letters Patent No. 131,373, dated September 17, 1872.

To all whom it may concern:

Be it known that I, GEORGE H. REYNOLDS, of New York city, in the State of New York, have invented certain Improvements relating to Ore-Washers, of which the following is a specification:

The invention may be used for washing various other materials, but I will describe it as used for washing ore, which is liable to be encumbered by various earthy matters which are capable of being removed by friction in water.

The following is a description of the invention. The accompanying drawing forms a part of this specification.

Figure 1 is a plan view, Fig. 2 is a vertical longitudinal central section, and Fig. 3 is an end view, of my improved ore-washer.

Similar letters of reference indicate like parts in all the figures.

A is a bin or tank formed of boiler-iron or other suitable material, and conveniently placed to receive the ore from a cart or other means into its open top, where it also receives a strong and continuous stream of water from the pipe G. B is an inclined grating of wood or metal, having the opening sufficiently liberal to allow the escape of water and fine dirt. The opposite side of the bin has a circular opening with a rim, A', around it, which rim extends a little within a revolving case, M, mounted, as represented, on rollers D¹ D², &c., and is turned slowly by a belt from a steam-engine, or by other suitable means. The axis of the revolving case M is horizontal or nearly so; but the form is tapering, the smallest end being presented toward the bin A. The ore, after being freed from the loosest foreign matter in the bin A, is discharged with a portion of the water into the interior of the revolving case M, and is there tumbled, the motion of the case being such as to tend always to carry it up on one side, thus allowing it to constantly tumble over and change the position of the masses relatively to each other. The interior of the casing M may be ridged or otherwise roughened, if desired. The flaring or tapering form of the case A effects two important ends: It creates a descent, which allows the water and earthy matter to move

by gravity from the receiving to the discharging end of the case; and it also, by introducing the material successively into portions of the case of a larger diameter than before, compels the lumps to change their position relatively to each other by conforming to the increased diameter, in addition to the obvious tumbling motion. M¹ M² are rings of a V-shaped section, riveted or otherwise secured on the exterior of the casing M, and running in corresponding grooves in the carrying-wheels D. It will be understood that the power to rotate the casing M may, if desired, be transmitted through the rollers D by gearing or otherwise communicating motion to all or a part of the several supporting rollers.

The material, on being discharged from the large end of the casing M, is received on a slightly-inclined grating, E, from whence it rolls or slides down and is received into a suitable bin, or directly into a canal-boat or other receptacle to be transported away. It is important that a sufficient quantity of water shall pass through the casing A to remove all the earthy matter liberated. In case the grating B shall be sufficiently open to allow the water to pass down through it too freely, I propose to dam up or inclose the space below so as partially to hold back the water, and compel a sufficient portion to flow along with the material being tumbled in the casing M. This water is afterward discharged downward through the openings in the grate E. All the several parts may be adjustable in position, and the grates B and E may be made readily exchangeable, so as to substitute finer or coarser according to the necessities of the work.

I claim as my invention—

The revolving case M, operated as described, in combination with the grated bin A B and water-induction means G at the receiving end, and the grated inclined platform E at the discharging end, substantially as herein specified.

In testimony whereof I have hereunto set my hand this 23d day of August, 1872, in the presence of two subscribing witnesses.

Witnesses: GEO. H. REYNOLDS.

WM. C. DEY,
ARNOLD HÖRMANN.