(No Model.)

B. A. PEIRCE.

Ore Washer.

No. 242,035. **Patented May 24, 1881.**

fig. 1.

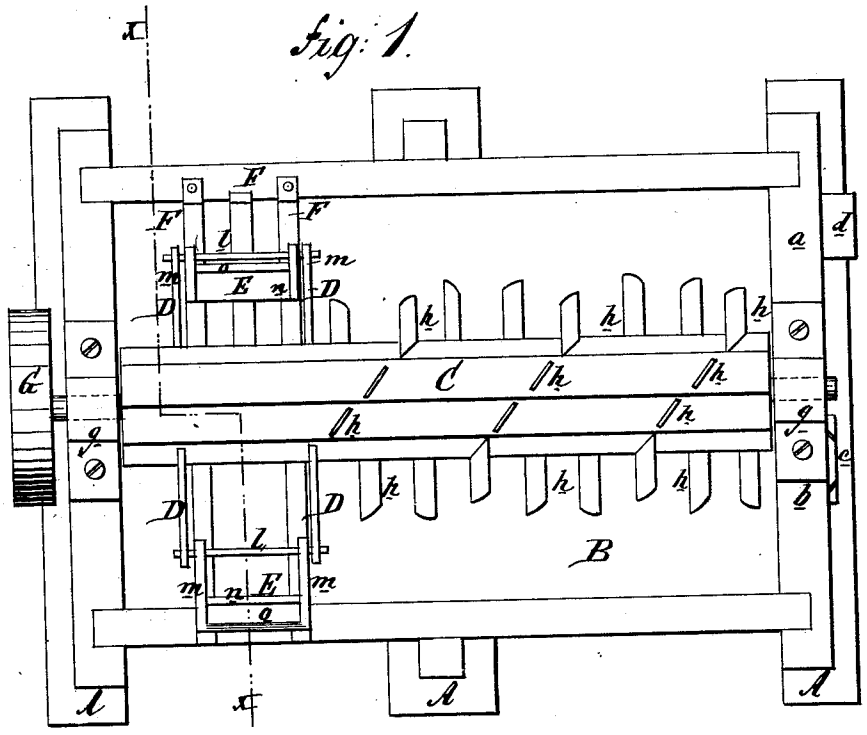
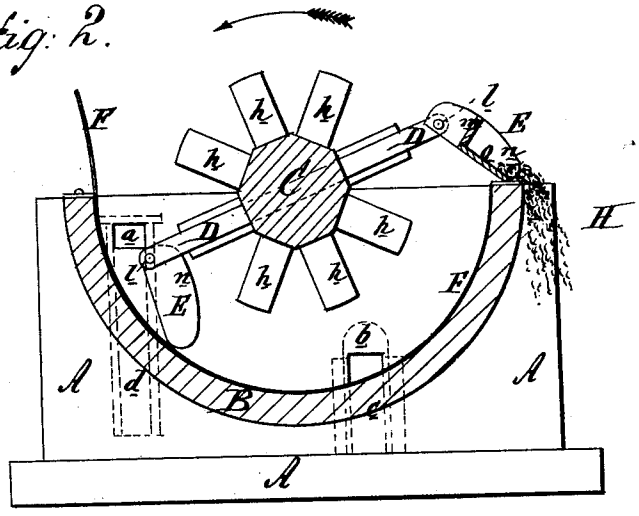


fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

BURRALL A. PEIRCE, OF MOUTH OF WILSON, VIRGINIA.

ORE-WASHER.

SPECIFICATION forming part of Letters Patent No. 242,035, dated May 24, 1881.

Application filed December 2, 1880. (No model.)

To all whom it may concern:

Be it known that I, BURRALL A. PEIRCE, of Mouth of Wilson, in the county of Grayson and State of Virginia, have invented a new and Improved Ore-Washer, of which the following is a specification.

The invention consists in combining guides and swinging shovels on the ends of blades, the latter arranged on the rotary shaft of an ore-washer, as hereinafter described.

Figure 1 is a plan of the washer. Fig. 2 is a vertical sectional elevation of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the bed of the washer, and B the semi-cylindrical box fixed horizontally thereon, and provided at one end with discharge-openings *a b*, the upper one, *a*, for the flow of the excess of water that may enter the said box B, and the other, *b*, for the escape of the earthy matter or slimes, the latter, *b*, being provided with a slide, *c*, to regulate the discharge through it. The opening *a* is provided or covered with suitable discharge-pipes *d*.

Journaled on the ends of the box B, and held in place by the boxes *g*, is the horizontal shaft C, provided with blades *h h*, arranged in a spiral about said shaft C, and reaching nearly or quite to the bottom of the said box B. At the end farthest from the discharge-openings *a b* two parallel rods or arms, D D, are passed at right angles through said shaft C, with their ends extending beyond the ends of the blades *h h*, and through the ends of these rods or arms D D, and at right angles thereto, are passed the rods or bars *l l*, on which are pivoted the shovels E E by their upper ends. Said shovels E E consist of two parallel side plates, *m*, with rounded ends, to accommodate themselves to the curve of the interior of the box B, which plates *m* have fixed between them a transverse shelf, *n*, having a back piece, *o*, beneath it to hold the ore as the said shovel E moves upward to the discharging-point.

To prevent the wearing of the bottom of the box B in the path of the shovels E E, metallic bands F F are secured in the bottom of said box B, reaching from edge to edge thereof, and one of said bands F is continued upward to serve as a guide for the shovels E E in their descent.

Power is transmitted to the shaft C by means of the pulley G, or in any other convenient manner.

The ore to be concentrated is introduced with water into the box B at the discharge-opening end thereof. The shaft C is then put in motion in the direction of the arrow, Fig. 2, with the effect of moving the ore toward the shovels E E. One or both of the discharge-openings *a b* are opened for the escape of water and slimes. As the shaft C revolves the ore is thoroughly stirred about by the blades *h h*, and the flowing water carries off the earthy particles and lighter metals or minerals through the discharges *a b*, while the heavier particles of ore are moved by the blades *h h* to the opposite end of the box B, where they are taken up by the shovels E E and discharged over the side of the box B, as indicated at H, Fig. 2, said shovels E E thus alternately discharging the concentrated ore from the box B as the washing progresses.

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

In an ore-washer, the combination, with the shaft C, provided with shovels E E, of the guides F, substantially as and for the purpose described.

BURRALL A. PEIRCE.

Witnesses:

G. A. HEUSER,

C. W. LYONS.