W. J. EVANS.

Ore Separator.

No. 162,809. Patented May 4, 1875.

Fig. 1

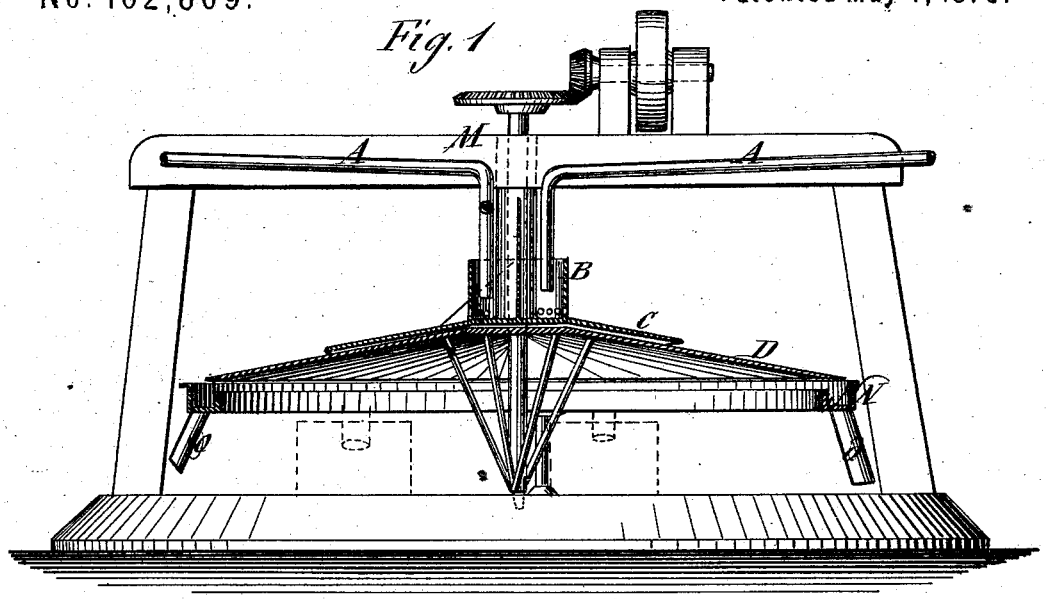

Fig. 2

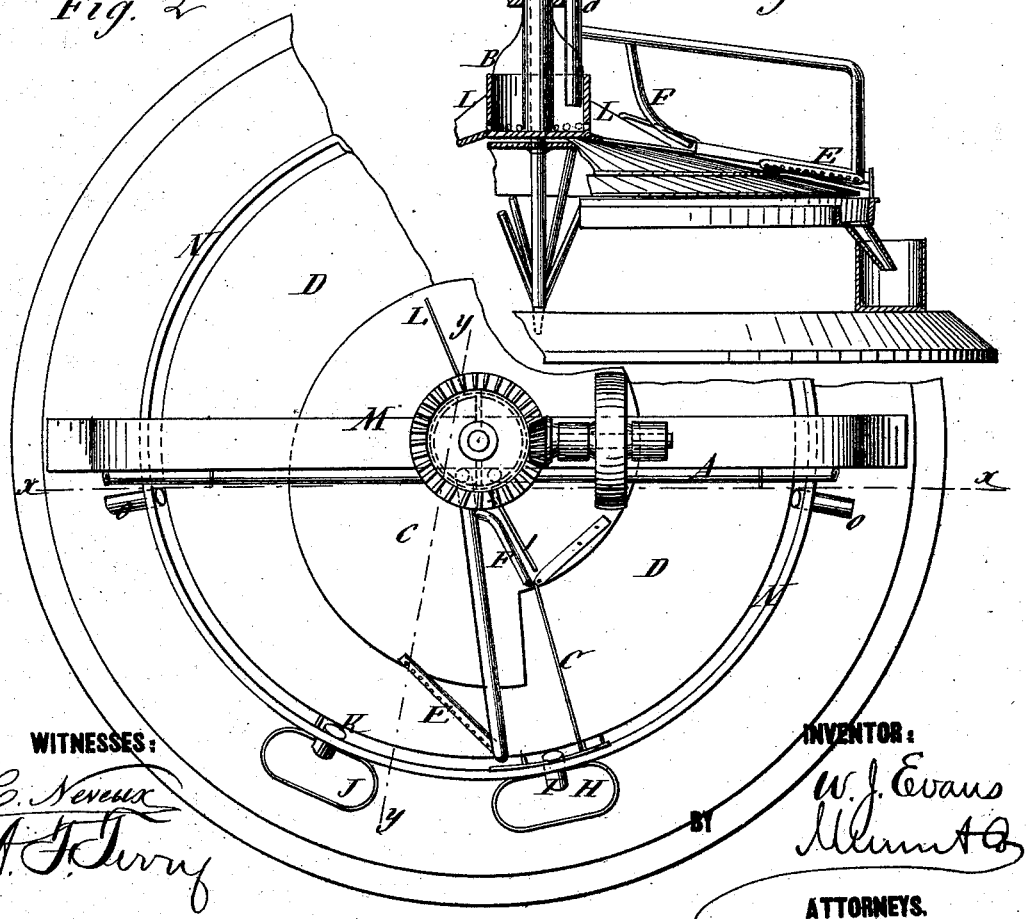

Fig. 3

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM J. EVANS, OF HOUGHTON, MICHIGAN.

IMPROVEMENT IN ORE-SEPARATORS.

Specification forming part of Letters Patent No. **162,809**, dated May 4, 1875; application filed April 3, 1875.

To all whom it may concern:

Be it known that I, WILLIAM J. EVANS, of Houghton, in the county of Houghton and State of Michigan, have invented a new and Improved Ore-Concentrator, of which the following is a specification.

My invention relates to ore-concentrating machines having a horizontally-rotating table whereon the ore is distributed by water and washed by jets of clear water; and it consists in certain improvements in the distributing and washing apparatus, as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation taken on line *x x* of Fig. 2; Fig. 2 is a plan view, and Fig. 3 is a section on line *y y* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A is a pipe or launder to conduct the puddled water from catch-pit to distributer B, which has a partition, *a*, in it to separate the clear water from the puddled water. The clear water is supplied by pipe *d* to the distributer and runs over one-half of table D, while the puddled water runs over the other half, being controlled by division-pieces L. The sand and water, being in one side of distributer B, run through its perforated bottom and are distributed equally over one-half of the stationary plate C, and run onto the rotating table D in a thin sheet. The table D, which revolves in direction of the arrow, carries the sand with it in contact with the clear water that is distributed over the long side of plate C, washing the sand off table D into the circular launder N, then through the waste-pipes *o o*, the ore remaining on the upper part of table D, and after concentration being shielded from the action of the clear water by the cam-shaped plate C. The poorer grades of ore are, through the action of the clear water, washed about half-way down the rotating table D; then they come in contact with the diagonal perforated pipe E, and are rewashed by a succession of small jets from the perforations of said pipe. The ore passing between the jets is carried around on the rotating table D, until it comes in contact with a jet of water from pipe F and conducting-board G. The jet F conducts the ore into hutch H through pipe *i*. The middle or second grade of ore is washed off table D by the perforated pipe E, and is deposited in hutch J, through pipe K, to be rewashed. The plate C is suspended from frame M, so that it can be readily adjusted relatively to the table as it may be required.

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

1. The combination of cam shaped stationary plate C, division-pieces L, and distributer B, with table D, to separate the clear from the puddled water and conduct the same evenly over the rotating table D, substantially as and for the purpose specified.

2. The perforated pipe E, in combination with the rotating table D, and cam-shaped plate C, substantially as and for the purpose specified.

3. The conducting-board G, pivoted on stationary plate C, and resting lightly on rotating table D, to conduct the water and ore into hutch H, through pipe *i*, substantially as described, and for the purpose specified.

WM. J. EVANS.

Witnesses:

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