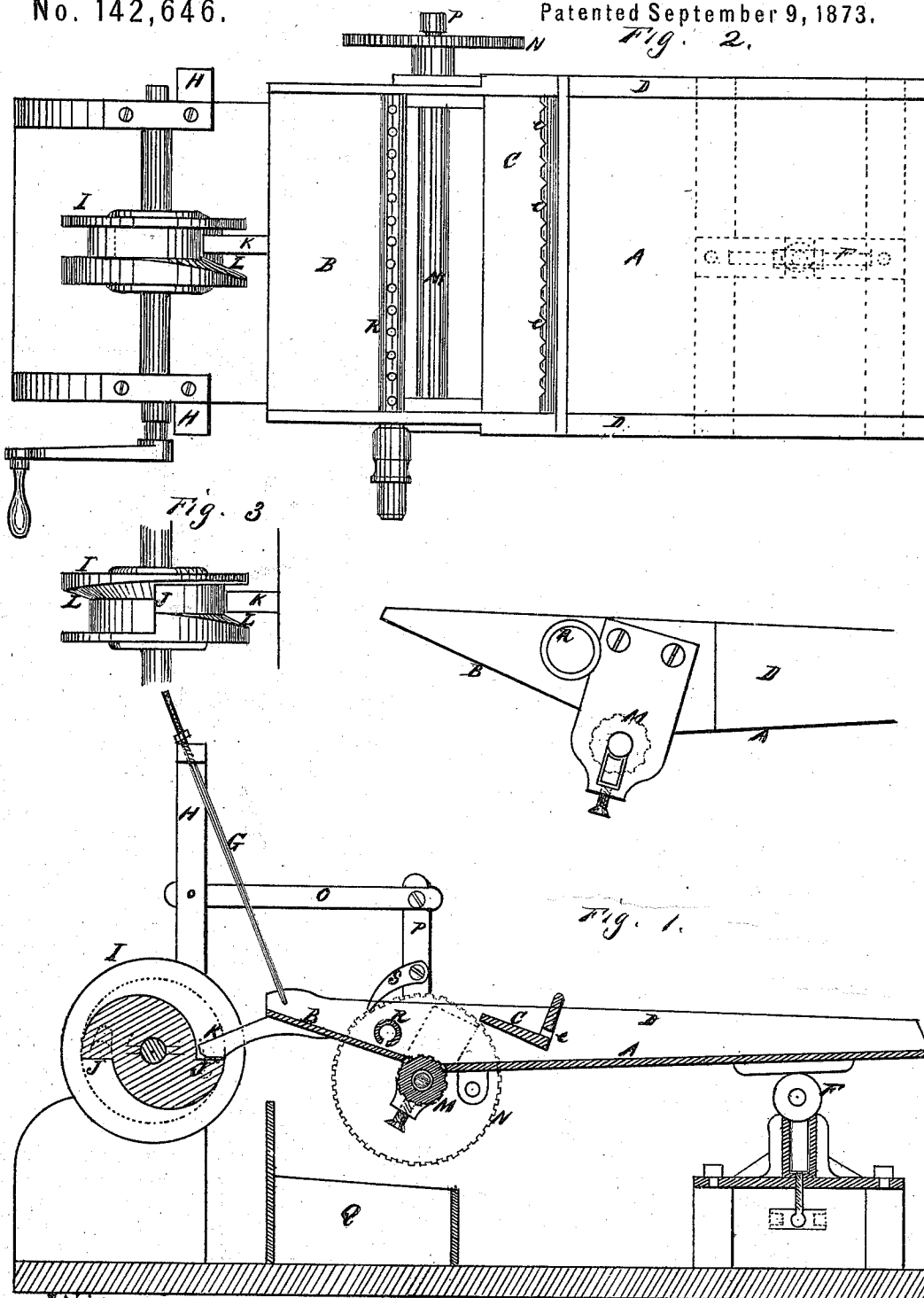


J. A. PEER.
Ore Concentrators.

No. 142,646.

Patented September 9, 1873.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN A. PEER, OF GRASS VALLEY, CALIFORNIA.

IMPROVEMENT IN ORE-CONCENTRATORS.

Specification forming part of Letters Patent No. **142,646**, dated September 9, 1873; application filed June 18, 1873.

To all whom it may concern:

Be it known that I, JOHN ANTONE PEER, of Grass Valley, Nevada county, State of California, have invented a Concentrator; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

The object of my invention is to provide an improved machine for concentrating and saving sulphurets, amalgam, and other valuable heavy products which are found among the tailings of quartz-mills or of gravel-washing; and it consists in the employment of a suspended or loosely-supported table, upon which the tailings are distributed, together with a considerable quantity of water, the table being subjected to a novel oscillatory movement both longitudinally and from side to side at the same time, so that the motion very nearly resembles that employed in the hand-pan process. The movement is communicated to the table by means of a peculiar screw-shaped cam, and the table is provided with a discharge-roller at its bottom, which is made to rotate slowly while the table is in operation.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a longitudinal elevation in section. Fig. 2 is a plan or top view. Fig. 3 is a separate view of the cam.

The table consists of two bottoms, A and B, inclined toward each other, the bottom A being long, while the bottom B is short and of a much greater inclination, as shown. Above the table the feed-trough C is situated, extending across between the sides D D, and being perforated at *e e*, so that its contents will be distributed over the surface of the table. The outer or discharge end of the table is supported upon a pulley or roller F, upon which it moves back and forth, and its inner end is suspended, by the links or chains G, from the upright frame H, or from some part of the building. The roller or pulley F can be raised or lowered to suit the grade of material pass-

ing. The operating device consists of a cylinder, I, which is grooved around its periphery — the groove being formed into two cams, J, so that the arm K, which projects into the groove from the table, will be alternately pressed back, and then allowed to swing suddenly forward and strike the bottom of the groove, which gives the table a sudden jarring motion in the direction of its length. In order to give the desired wobbling or side motion, the groove in the cylinder is not made around the cylinder in the same plane, but is inclined to one side at the offset of one of the cams, and to the other side at the other cam, as shown at L. By this construction the arm K not only falls to the bottom of the groove, but is also pushed alternately to one side and then to the other, so that when the table swings forward, after one cam passes, it will swing to one side, and after the other cam, it will swing to the other side. A cylinder, M, is secured so as to be adjustable and rotate in boxes at each side of the table, and just below the meeting-point of the two planes, A and B, where a slot is made entirely across the table. This cylinder may be fluted or plain, and has secured to one end the ratchet-wheel N. An arm, O, is pivoted to the frame H, and extends out over the ratchet-wheel; and another arm, P, is pivoted to the end of the arm O and to the end of the shaft or cylinder M. A pawl, S, attached to the arm P, rests in the teeth of the ratchet, and, as the table swings back and forth, this pawl feeds the ratchet forward, and thus turns the cylinder M.

The operation will be as follows: The pulp or tailings, being let into the trough C, will be distributed over the surface of the table, and, by the movement of the table, the heavier particles, sulphurets, and amalgam, will be gradually carried down to the opening at the intersection of the inclined bottoms, where the cylinder M will carry them out and deposit them in the trough Q below. The lighter portions will flow out at the rear end, in the usual manner. A perforated pipe, R, crosses the table just over the bottom B, and water

is distributed from it, so as to wash down and clean all the sulphurets, and insure their passing out over the cylinder M.

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

1. The cylinder I, with its cams J and the peculiarly-inclined groove L, constructed to operate the table through the arm K, substantially as and for the purpose herein described.

2. In combination with the peculiar cam-cylinder I, the table mounted upon the roller F and links G, and having the double bottom A B and the discharge-cylinder M, substantially as and for the purpose herein described.

In witness whereof I hereunto set my hand and seal.

JOHN ANTONE PEER. [L. S.]

Witnesses:

GEO. H. STRONG,
C. M. RICHARDSON.