(No Model.)

J. A. JONES.

CONCENTRATOR.

No. 394,654. Patented Dec. 18, 1888.

Fig. 1.

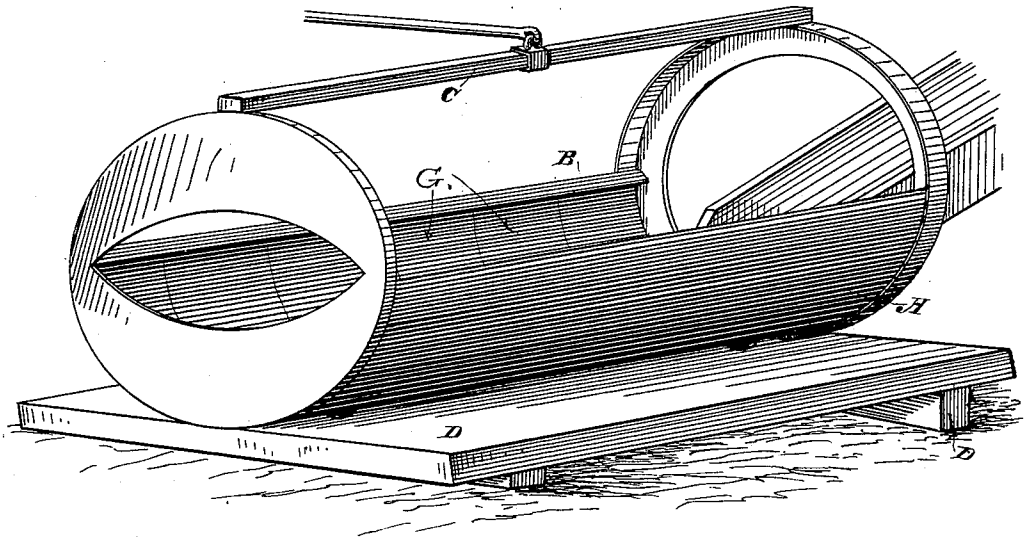
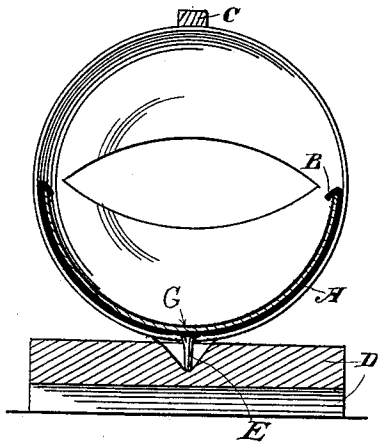


Fig. 2.



Witnesses,
T. Walter Fowler
J. H. Howes,

Inventor,
John A. Jones
By Dewey and Co
attys

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. JONES, OF TUSCARORA, NEVADA.

CONCENTRATOR.

SPECIFICATION forming part of Letters Patent No. 394,654, dated December 18, 1888.

Application filed February 16, 1888. Serial No. 264,233. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. JONES, of Tuscarora, Elko county, State of Nevada, have invented an Improvement in Concentrators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in machines for concentrating sulphurets, fine placer gold, tailings from quartz-mills, or any heavy, valuable material which it is desired to separate from lighter substances with which it may be mixed; and my invention consists in the constructions and combinations of devices which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of my concentrator. Fig. 2 is a transverse section looking toward the discharge end.

A is the bottom of my concentrator, which in the present case is shown as semi-cylindrical, having the sides or edges B turned inwardly, so as to prevent the escape of the contents over these edges when the cylinder is rocked from side to side; but, if preferred, the edges may be made straight and continued up high enough to retain the contents. The ends of the cylinder are in the form of circular disks, which may be connected by a longitudinal bar, as shown at C.

The apparatus is placed upon supports D D, which extend transversely beneath it and form a surface upon which it may be rocked from side to side by steam or other suitable power, with intermediate connections, which will produce a reciprocating rocking motion. The support nearest the receiving end of the apparatus is sufficiently higher than the one near the discharge end to retain the apparatus in an inclined position, so that any material discharged into it will be carried gradually from the receiving to the discharging end by gravitation and the rocking motion. Pins E, attached to the bottom of the cylinder, enter holes on the transverse supports, moving loosely in the holes, so that they will not impede the rocking motion, but will prevent the apparatus from being thrown off its supports by the violence of its movements.

The material to be concentrated is delivered into the circular opening in the disk at the upper or receiving end from a sluice or other device, which will allow it to properly fall into the apparatus without producing any current. The rocking motion will break up and interrupt any current which may be produced by the inclination of the apparatus, and will separate the lighter sand or material from that which is heavier, so that the latter will sink to the bottom or will settle upon the bottom and sides, being prevented from passing over the sides by their height or by the inwardly-turned flanges before described.

In order to amalgamate and save any fine gold or quicksilver from the tailings of quartz-mills or from other sources, I employ silvered copper plates G, which are preferably made in sections and fitted into the trough or vessel, so as to form a lining thereto. These plates are easily removed for cleaning up and afterward replaced, which makes them more convenient in use.

The disk at the lower or discharge end has an opening made in it, which is formed by two segments of circles of large diameter placed together, so as to form a lenticular slit or opening having its shortest diameter in a vertical line and its longest in a horizontal line. Through this opening the lighter material will gradually escape, leaving the heavier material contained in the apparatus.

This concentrator is very simple and effective in its action.

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

1. An ore-concentrator comprising the semi-cylindrical chamber having the upwardly-turned sides or flanges, the disks forming the receiving and discharging ends having circular and lenticular shaped openings made in them respectively, substantially as herein described.

2. An ore-concentrator comprising the semi-cylindrical chamber having upwardly-turned flanges, the circular receiving-opening and the lenticular discharge-opening at the opposite ends, the supports upon which the concentrator rests at an inclination, and the pins projecting from it into said supports, in combination with the mechanism by which the concentrator is caused to oscillate from side to side, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN A. JONES.

Witnesses:
WM. MCI. MCMASTER,
JNO. S. BLAKE.