

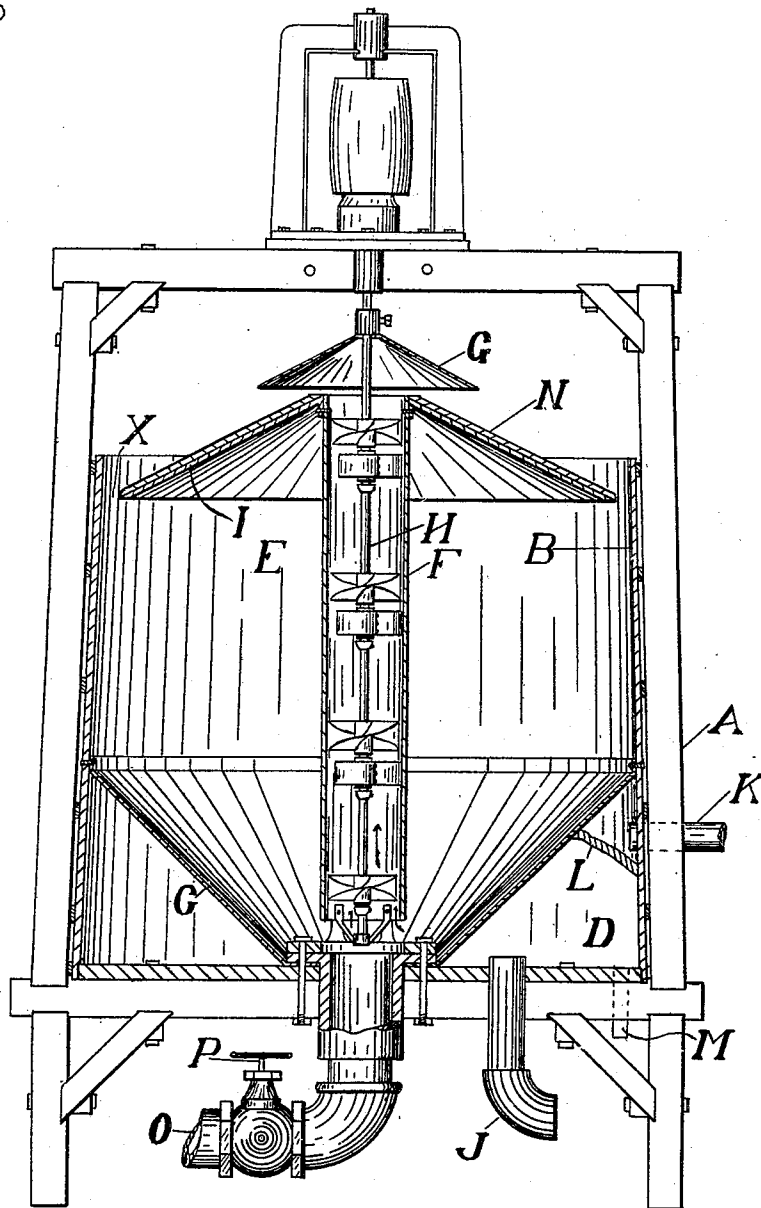
No. 690,375.

Patented Dec. 31, 1901.

G. RUBSCH, JR.
AGITATING MACHINE FOR CYANIDING.

(Application filed Mar. 14, 1901.)

(No Model.)



Witnesses
E. Boyd
Ada Shoulters

Inventor
George Rubsch Jr.
By Hazard Harpham
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE RUBSCH, JR., OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO PRESTON K. WOOD, OF LOS ANGELES, CALIFORNIA.

AGITATING-MACHINE FOR CYANIDING.

SPECIFICATION forming part of Letters Patent No. 690,375, dated December 31, 1901.

Application filed March 14, 1901. Serial No. 51,205. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RUBSCH, Jr., a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Agitating-Machines for Cyaniding, of which the following is a specification.

My invention relates to the treatment of gold and silver ores, tailings, &c., for the extraction of the precious metal therefrom by what is known as the "cyanid" process; and the object thereof is to provide a machine of simple construction which will effect said object in a more expeditious manner than has heretofore been possible. I accomplish this object by the machine described herein and illustrated in the accompanying drawing, which is a central vertical section thereof, parts of the pump being shown in elevation.

In the drawing, A is the wooden frame, to which is affixed the cylindrical tank B, in the bottom of which is the conical-shaped partition C, which separates the lower part from the other parts, thereby forming heating-chamber D, which is entirely disconnected from the other part of the tank, which I call the "agitating-tank" E. Centrally disposed in the agitating-tank is a rotary pump F, which raises the solution and tailings from the bottom of the agitating-tank and discharges it against the deflecting-plate G, affixed to and revolving with the shaft H of the pump and vertically adjustable thereon, a set-screw G' in the shank of the deflector being provided for that purpose, thereby causing the solution and ore to be deposited in a thin sheet over the conical-shaped stationary deflector I, affixed to the casing of the pump. The solution runs to the edge of the agitating-tank, into which it passes at a point directly above the top part of the conical bottom thereof, thereby affording more perfect circulation in the agitating-tank. During the time the solution is passing from the deflecting-plate and over the stationary deflector it is subjected to the action of the atmosphere thereon, which greatly facilitates the action of the cyanid solution in separating the metal from the gangue. Where the pulp carries free gold, before I add the cyanid solution I run it

through the agitating-tank with sufficient water to make a thin solution. I also place removable copper amalgamating-plates N upon the stationary deflector, which will amalgamate the free gold as the pulp passes thereacross. After the free gold is extracted I remove the amalgamating-plates and add the cyanid solution to the pulp and treat it as before described.

When the weather is cold I, discharge the exhaust-steam from the engine (not shown) into the heating-chamber through inlet-pipe J, from which it is discharged through outlet-pipe K at the top of and beyond partition L, which passes across the heating-chamber, and thereby causes the steam to pass almost entirely around the bottom of the agitating-tank before it can escape from the heating-chamber. Any water which may condense from the steam passes out through the waste-pipe M. When the pulp is thoroughly agitated, it is discharged through the discharge-pipe O, cock P being first opened into settling-tanks. (Not shown.) Any other means may be adopted for heating the chamber below the agitating-tank.

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

1. An agitating-machine for treatment of gold and silver ores by the cyanid process, comprising an agitating-tank, having a conical bottom; a rotary pump centrally disposed in said tank; a rotary deflector affixed to the shaft of the rotary pump, and vertically adjustable thereon; and a stationary deflector-plate below the rotary deflector, adapted to deflect the solution to near the edge of the agitating-tank.

2. An agitating-machine for the treatment of gold and silver ore by the cyanid process, comprising an agitating-tank, having a conical bottom; a heating-chamber surrounding the conical bottom of the agitating-tank; means to heat said chamber; a rotary pump, centrally disposed in the agitating-tank, adapted to take the solution from the bottom of the tank and discharge it above the top thereof; a rotary deflector, adapted to distribute the solution over a stationary deflector; and a stationary deflector affixed to the cas-

ing of the pump adapted to deflect the solution to near the edge of the agitating-tank, substantially as described herein.

3. An agitating machine for treatment of
5 gold and silver ores by the cyanid process, comprising an agitating-tank having a conical bottom; a conical deflector centrally disposed almost entirely above the top of said agitating-tank and extending to almost the
10 edge thereof, and means to agitate and at the

same time elevate the solution in said tank from the bottom thereof and discharge the same upon the deflector.

In witness that I claim the foregoing I have hereunto subscribed my name this 6th day of 15
March, 1901.

GEO. RUBSCH, JR.

Witnesses:

G. E. HARPHAM,
MATTIE MCGINNIS.