

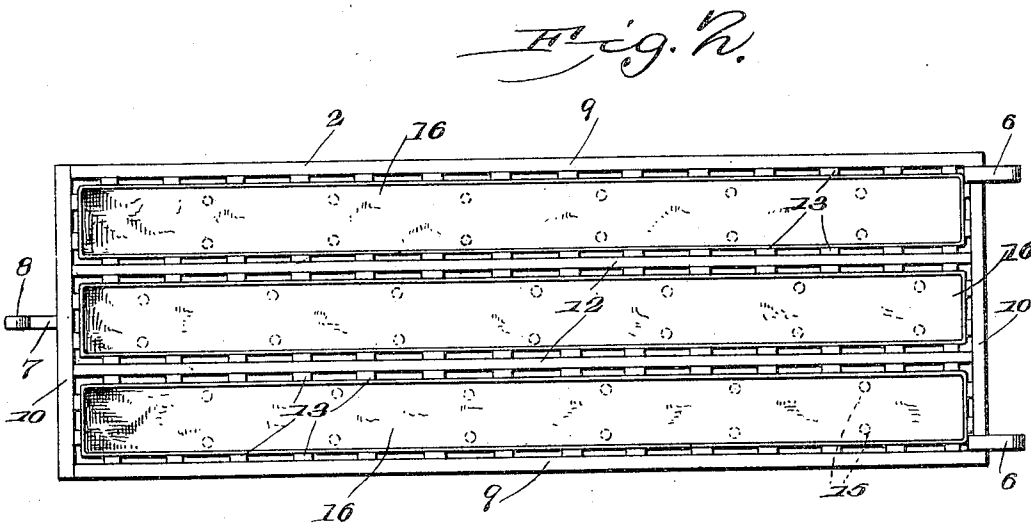
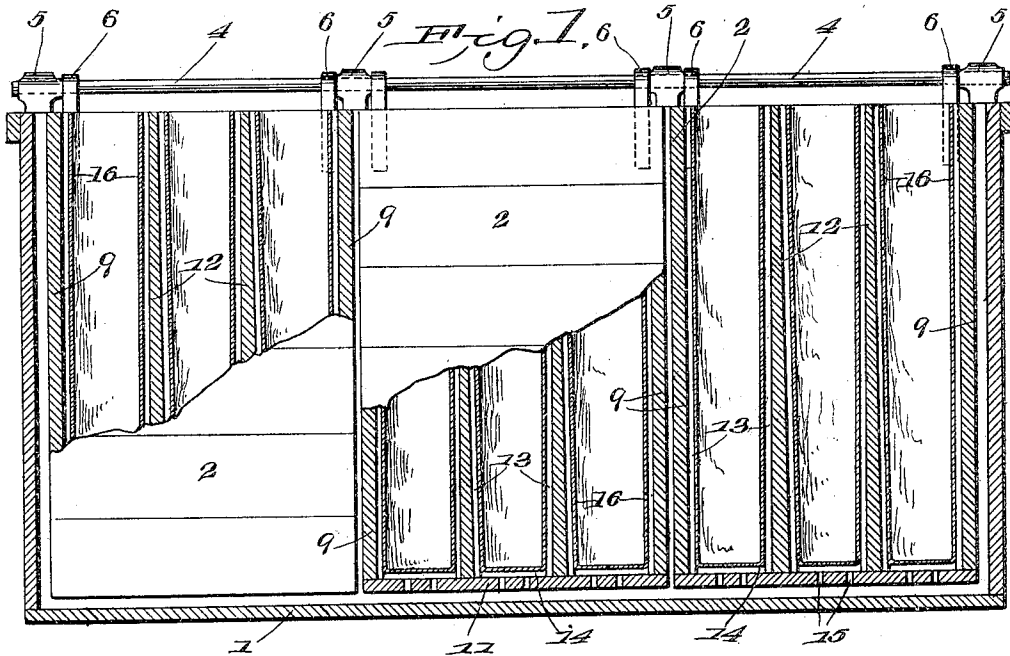
No. 808,675.

PATENTED JAN. 2, 1906.

A. B. MOUCK.
LEACHING TANK.

APPLICATION FILED DEC. 15, 1904.

2 SHEETS—SHEET 1.



Witnesses:

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E. J. Stewart

R. M. Elliott

Andrew B. Mouck,
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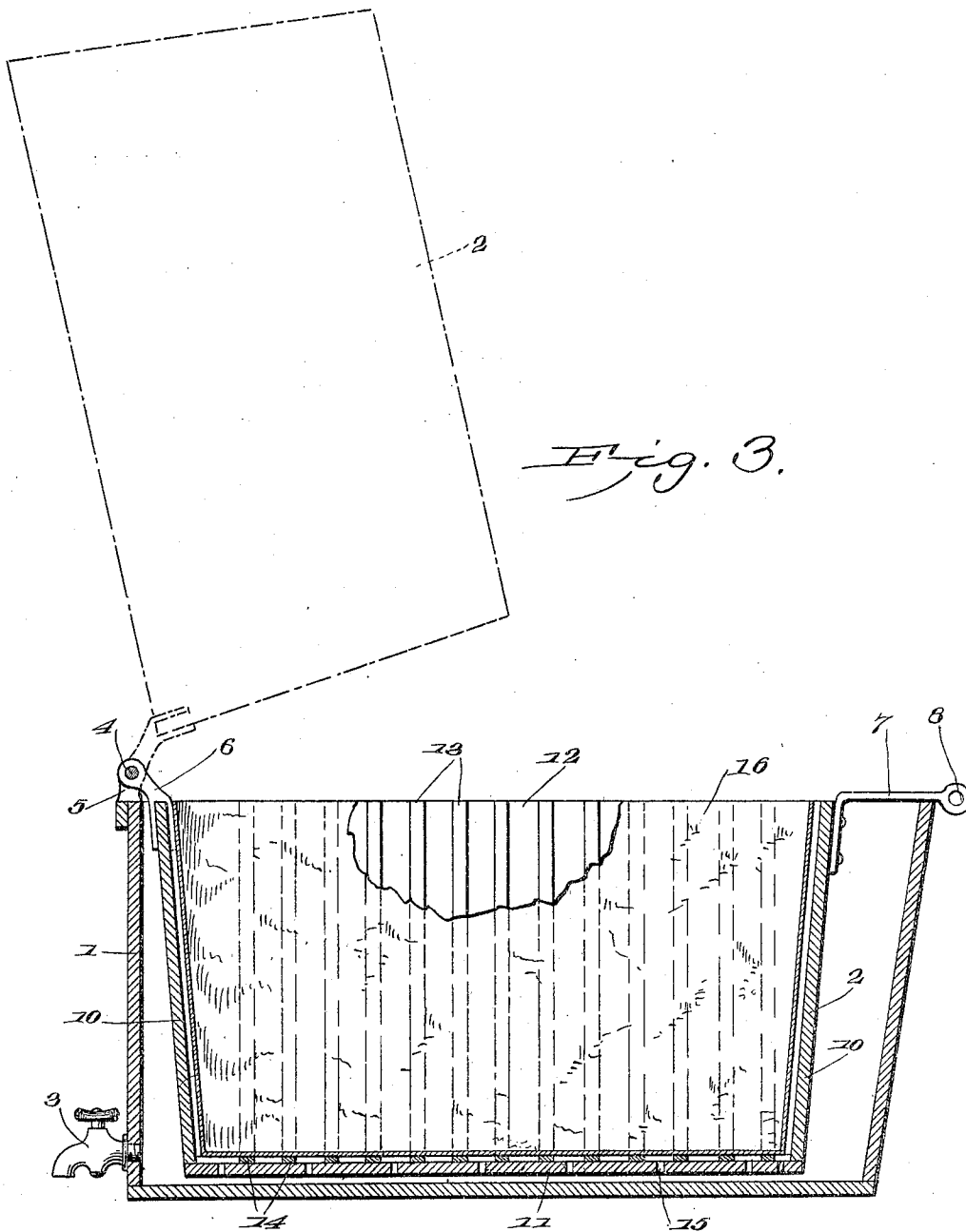
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UNITED STATES PATENT OFFICE.

ANDREW B. MOUCK, OF TWISP, WASHINGTON, ASSIGNOR OF TWO-THIRDS
TO ROBERT S. LEWIS AND TREADWELL TWICHELL, OF FARGO, NORTH
DAKOTA.

LEACHING-TANK.

No. 808,675.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed December 15, 1904. Serial No. 236,997.

To all whom it may concern:

Be it known that I, ANDREW B. MOUCK, a citizen of the United States, residing at Twisp, in the county of Okanogan and State of Washington, have invented a new and useful Leaching-Tank, of which the following is a specification.

This invention relates generally to leaching-tanks, and more particularly to one adapted for use in connection with cyanid processes of extracting precious metals from ores.

In treating ores by the cyanid process great difficulty has heretofore been encountered in effecting rapid leaching of the solution, owing to the fact that certain ores that require fine pulverization prior to treatment mass or bed within the tank to such an extent as practically to preclude the percolation of the solution therethrough. Furthermore, as generally practiced leaching has been effected from the bottom of the tank or tanks, and it is due to this fact that the difficulty arises in effecting the separation of the cyanid solution from the pulp.

It is the object of the present invention in a ready, practical, inexpensive, and rapid manner to effect leaching of practically all of the solution from the ores or pulp, to conserve such product for reuse, and to effect easy discharge of the pulp from the tank.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a leaching-tank, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, Figure 1 is a view in end elevation, partly in section, of a leaching-tank constructed in accordance with the present invention. Fig. 2 is a view in top plan, exhibiting more particularly the manner in which the pulps are discharged from the tank after having been leached. Fig. 3 is a view in vertical longitudinal section through the tank, exhibiting the dumping position of the tank in dotted lines.

Referring to the drawings, 1 designates a tank which, as will hereinafter appear, constitutes a reservoir for catching the solution, and 2 a plurality of leaching-tanks arranged therein. Both sets of tanks may be con-

structed of any suitable material, preferably of wood, and the tank 1 has combined with it a draw-faucet 3. The leaching-tanks 2 are disposed within the tank 1 in such manner as to be free from contact with the bottom, sides, and ends thereof and are also adapted for tilting or dumping movement to effect discharge of the pulps after leaching of the cyanid solution has been effected. The leaching-tanks may be supported for this purpose within the tank 1 in any suitable manner and is herein shown as secured through the employment of a shaft 4, which is mounted for rotation in bearings 5, secured to the tank 1, and is engaged by straps or hinges 6, secured to the leaching-tank, as clearly shown in Figs. 1 and 3. As herein shown there are but two of the hinge members 6 combined with each of the leaching-tanks; but, as will be obvious, this number may be increased, if found necessary or desirable. The hinge members 6, in conjunction with the shaft 4, support the leaching-tanks out of contact with the bottom of the tank only at one end, and at the other end the leaching-tanks are supported out of contact with the bottom of the tank 1 by angle-irons 7, which are secured to the leaching-tank and rest upon the upper edge of the tank 1, the outer ends of the irons being provided with a hook or eye 8 to be engaged by a suitable implement, such as an overhead block and tackle, for dumping the leaching-tanks, as indicated by dotted lines in Fig. 3.

Each leaching-tank consists of solid or imperforate sides 9, similar ends 10, and a perforated bottom 11. Where the leaching-tanks are combined with the reservoir-tank, as shown, they need not necessarily be watertight at the sides and ends, but may be open-work; but where the reservoir is not employed the leaching-tanks are suspended over a trough or the like, and the sides and ends will then be preferably solid. Extending longitudinally of each of the tanks are a plurality of partitions 12, in this instance two in number, which, as shown in Fig. 1, are preferably tapered from their lower edges, and secured to these partitions and also to the bottom 11 are slats 13 and 14, the latter being so arranged as not to interfere with the perforations in the bottom of the leaching-tank. As shown in Fig. 2, the bottom slats 4 form a continuation of the vertical slats 13, and these series

of slats are provided to hold a leaching-surface 16 out of contact with the sides, ends, and bottom of the leaching-tanks. This leaching-surface may be made of any suitable material, such as burlap or cloth, through which the solution may readily percolate, pass down in the spaces formed between the slats, and escape from the perforations 15 into the tank 1, whence it is removed through the faucet 5.

By the provision of these leaching-surfaces filtration of the solution may be effected not only at the bottom, as usual, and also on all four sides, whereby, as will be obvious, the procedure of leaching will be expedited in a pronounced manner, but also a larger percentage of the solution may be conserved than where the leaching takes place only at the bottom of the leaching-tank. By the employment of this increased area in the leaching-surface slimes and pulps, the leaching of which has heretofore been exceedingly difficult, may be readily treated in a cheap and expeditious manner. In addition to forming channels for the escape of the solution from the sides, ends, and bottoms of the leaching-tanks the slats or spaces 13 and 14 also prevent the leaching cloth or surface from contacting with the interior surface of the tanks, thus preventing any interruption to the operation, which would naturally ensue if the cloth were allowed to sag down upon the bottom of the leaching-tanks and press against the sides and ends.

By the provision of the partitions 13 the bulk of the pulp is divided into separate masses, and this further facilitates the filtering of the solution, as it will be an easier matter to remove the solution from a small bulk of pulp than from a large one. The solution thus conserved may be reused by adding a proper amount of cyanid to bring it up

to the desired strength. After the solution has been removed from the pulp the leaching-tank may be dumped to discharge its contents, as shown in Fig. 3, and the tank be again recharged.

The improvements of this invention, while simple in character, will be found in a thoroughly efficient and practical manner to eliminate objectionable features that have heretofore been inherent in leaching-tanks and which have prevented the leaching of certain pulps that retain sufficient gold-bearing ores to render them profitable, but which heretofore could not be handled without loss.

While there are but three of the leaching-tanks shown in the reservoir or tank 1, it will be apparent that this number may be increased as desired, and as this will be readily understood detailed illustration thereof is thought to be unnecessary.

Having thus described the invention, what is claimed is—

The combination with a reservoir or tank, of a leaching-tank pivotally suspended therein and held out of contact therewith and adapted for dumping movement, said tank comprising a plurality of compartments each having a perforated bottom, slats or spacers secured to the four walls and bottom of each compartment, and a filtering medium disposed within each compartment and held out of contact with the walls and bottom thereof by the slats.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ANDREW B. MOUCK.

Witnesses:

E. F. MAGEE,
JAS. B. COUCHE.