

UNITED STATES PATENT OFFICE.

ISIDOR KITSEE, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF EXTRACTING PRECIOUS METALS FROM ORES.

No. 894,215.

Specification of Letters Patent.

Patented July 28, 1908.

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To all whom it may concern:

Be it known that I, ISIDOR KITSEE, citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Processes of Extracting Precious Metals from Ores, of which the following is a specification.

My invention relates to the process of extracting precious metals from their natural deposits.

To-day, precious metals, such for instance as gold, are extracted from their ores most generally by means of a solution of cyanid. In this process, the simultaneous oxidation of the gold is necessary and is most generally effected by the action of air upon the solution.

I have discovered that if the contents of the positive compartment of an electrolytic apparatus, in which a compound is electrolyzed, carrying the radical chlorin, is intermixed with the contents of the positive compartment of an electrolytic apparatus, in which a compound is electrolyzed, carrying the radical nitrogen, this mixture can be successfully employed in extracting such precious metals as gold, etc., from their ores.

For practical and economical reasons, I prefer to use in one of the electrolytic apparatuses, a chlorid of sodium, and in the second of said apparatuses, a nitrate of potassium. The proportions may differ, but I had good results by using about equal proportions of each of the solutions.

When it is considered that mining outfits of to-day include invariably power plants, the use of a small dynamo, such for instance as is used in the art of electro-plating, would

not add greatly to the running expense and, therefore, the process above outlined is deemed cheaper than the process of cyaniding.

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

1. The process of extracting precious metal from its deposit, consisting in subjecting the metal carrying ore to the dissolving action of two solutions; one solution containing the contents of the positive compartment of an electrolytic apparatus, in which a chlorine compound has been electrolyzed, and the second solution containing the contents of the positive compartment of an electrolytic apparatus, in which a nitrogen compound has been electrolyzed.

2. The process of extracting gold from its ores, consisting in subjecting the ores to the dissolving action of a chlorinated water and a solution containing a compound of nitrogen.

3. The process of extracting precious metals from their ores, consisting in subjecting said ores to the dissolving action of the analytic product of an alkali or alkali earth chlorid, and alkali or alkali earth nitrate.

4. The process, which consists in, first, electrolyzing a compound containing chlorine and a compound containing nitrogen and then subjecting a metal bearing ore to the dissolving action of the anolytes of said compounds.

In testimony whereof I affix my signature in presence of two witnesses.

ISIDOR KITSEE.

Witnesses:

EDITH R. STILLEY,
MARY C. SMITH.