

UNITED STATES PATENT OFFICE.

JAMES DOUGLAS, OF NEW YORK, N. Y.

PROCESS OF EXTRACTING COPPER FROM ORES.

SPECIFICATION forming part of Letters Patent No. 563,143, dated June 30, 1896.

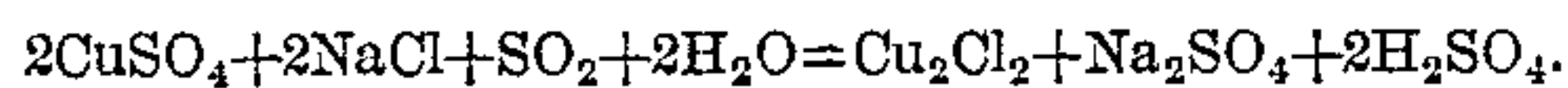
Application filed April 11, 1895. Serial No. 545,389. (No specimens.)

To all whom it may concern:

Be it known that I, JAMES DOUGLAS, of the city, county, and State of New York, have invented a new and useful Process of Extracting Copper from Ores, of which the following is a specification.

This invention relates generally to the extraction of copper, and particularly to a process for extracting the copper from the solid cuprous chlorid, by means of electrolysis. The process also includes certain steps hereinafter referred to, and pointed out in the claim.

The solid cuprous chlorid may be obtained from the copper-bearing ore by various processes, but in practice I prefer to obtain said chlorid in the following manner, namely, first producing a solution of copper sulfate, then adding a chlorin salt, and precipitating copper in the form of solid cuprous chlorid by means of sulfurous-acid gas, the reaction being as follows:



The chlorid of copper thus thrown down is removed and placed in a suitable vessel or on a slab, and both the positive and negative electrodes of an electric circuit inserted into the solid mass, said mass being preferably

slightly moistened with water slightly acidified, if desired, to render the electrolytic action easier. By the action of the electric current the solid cuprous chlorid is converted into copper and chlorin, or its compounds, and by continuing the operation every trace of copper can be extracted, while the chlorin can be collected in water-bottles, if so desired.

I prefer to electrolyze the solid salt by immersing both electrodes therein, inasmuch as the internal resistance is somewhat reduced.

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

The herein-described method of extracting copper from solid cuprous chlorid, which consists in moistening said solid cuprous chlorid with water, inserting both electrodes of an electric circuit in the said solid cuprous chlorid, and then passing an electric current therethrough, substantially as shown and described.

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

JAMES DOUGLAS.

Witnesses:

GEORGE NOTMAN,
C. A. AUSTIN.