

# UNITED STATES PATENT OFFICE.

EZECHIEL WEINTRAUB, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## PURIFYING TANTALUM.

947,983.

Specification of Letters Patent.

Patented Feb. 1, 1910.

No Drawing.

Application filed October 3, 1906. Serial No. 337,159.

*To all whom it may concern:*

Be it known that I, EZECHIEL WEINTRAUB, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Purifying Tantalum, of which the following is a specification.

My present invention comprises a process for purifying tantalum by electrolysis. The process consists in the electrolysis of a molten salt, and more specifically, of the double salt,—potassium - tantalum fluorid—between an anode consisting of impure tantalum, and a cathode consisting of pure tantalum, or of other conductive and inert material.

At the anode, the fluorid dissolves the tantalum while the impurities such as carbon, tantalum oxid, and similar substances fall to the bottom of the vessel. At the cathode the tantalum separates out as a coherent coating of pure metal, being the product of the reaction between the potassium, which separates primarily, and the double fluorid. The composition of the electrolyte does not materially change, and the process can be continued indefinitely.

A vessel suitable for holding the fused salt may consist of magnesium oxid or other refractory material, or even of tantalum oxid itself.

The product obtainable by the above process is found to be relatively pure, and can be used for the production of refractory heaters and glowers of furnaces and other electrical apparatus, and may be otherwise employed in those arts requiring tantalum of a high degree of purity.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A process for obtaining pure tantalum which consists in passing current through potassium tantalum fluorid to deposit tantalum therefrom.

2. The process which consists in electrolyzing a molten double salt of tantalum between an anode consisting of impure tantalum and a cathode, to deposit purified tantalum on said cathode.

3. The method of purifying tantalum, which consists in electrolyzing potassium-tantalum fluorid between an impure tantalum anode and a cathode, to deposit on said cathode pure tantalum derived from said anode.

In witness whereof, I have hereunto set my hand this 28th day of September, 1906.

EZECHIEL WEINTRAUB.

Witnesses:

BENJAMIN B. HULL,  
HELEN ORFORD.