

UNITED STATES PATENT OFFICE.

ELISHA BARTON CUTTEN, OF NEW YORK, N. Y.

METHOD OF ELECTROLYTICALLY PRODUCING POTASSIUM CHLORATE.

SPECIFICATION forming part of Letters Patent No. 480,493, dated August 9, 1892.

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To all whom it may concern:

Be it known that I, ELISHA BARTON CUTTEN, of the city, county, and State of New York, have invented a new and useful Improvement in Methods of Electrolytically Producing Potassium Chlorate, of which the following is a specification.

My invention consists in a new method of producing potassium chlorate by electrolyzing a solution of magnesium chloride in the presence of potassium chloride and magnesium oxide.

I carry my process into effect in the following manner: In an ordinary containing-vessel suitable for an electrolytic cell I place electrodes, preferably of carbon. I place in the cell as the electrolyte a solution of magnesium chloride. I add to the solution of magnesium chloride a suitable quantity of potassium chloride, preferably the ordinary muriate of commerce, and magnesia or magnesium oxide. The relative quantities are of course determined by the chemical combining proportions of the substances, which are known. When the current is established, three equivalents of magnesium chloride become converted into three equivalents of magnesium and six equiv-

alents of chlorine. The six equivalents of chlorine combine with three equivalents of magnesium from the magnesium oxide to produce three equivalents of magnesium chloride again and to set free three equivalents of oxygen. The three equivalents of oxygen then combine with the potassium chloride to make potassium chlorate, (KClO_3). It is necessary to agitate this solution during electrolysis in order to get the best results.

I claim—

1. The method of electrolytically producing potassium chlorate as hereinbefore described, which consists in electrolyzing magnesium chloride in the presence of potassium chloride and magnesium oxide.

2. The method of electrolytically producing potassium chlorate substantially as hereinbefore described, which consists in electrolyzing magnesium chloride in the presence of potassium chloride and magnesium oxide and agitating the electrolyte during electrolysis.

ELISHA BARTON CUTTEN.

Witnesses:

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