

# UNITED STATES PATENT OFFICE.

CHARLES JURON, ANTOINE IMBERT, JOANNES JURON, AND LOUIS IMBERT,  
OF LYONS, FRANCE.

IMPROVEMENT IN THE PRODUCTION OF CAUSTIC ALKALIES FROM CARBONATES.

Specification forming part of Letters Patent No. **152,845**, dated July 7, 1874; application filed  
May 27, 1874.

*To all whom it may concern:*

Be it known that we, CHARLES JURON, ANTOINE IMBERT, JOANNES JURON, and LOUIS IMBERT, of Lyons, France, have invented a certain new and useful Improvement in the Conversion of Alkaline Carbonates into Caustic Alkalies by the Dry Process, of which the following is a specification:

Our process may be briefly stated to consist in causing superheated steam to pass through the mass of carbonate to be converted, which mass is placed cold in a closed or open receiver of copper or aluminous clay. The superheated steam by degrees elevates the carbonate to the temperature at which it will be decomposed. Carbonic acid is then disengaged and given off, and we thus obtain in the receiver an alkaline oxide of more or less purity, according to the nature of the substance employed, and the care taken in conducting the operation of conversion.

In carrying out our process, we employ an apparatus, a steam-generator, a Siemens gas-generator, and a receiver resembling those employed for metallurgical purposes, into which the alkaline substance in its natural state is charged from time to time. The steam from

the steam-generator is conducted to the superheater, and thence taken to and discharged into and through the mass to be converted, as above described, said mass being in a cold state, and deriving its heat only by the continued action of the superheated steam, by which it is finally decomposed.

The carbonic acid which is given off can be preserved and utilized in any suitable manner.

What we claim, and desire to secure by Letters Patent, is—

The process of converting alkaline carbonates into caustic alkalies by treating the same in a cold state with superheated steam, which is passed through the mass to be converted, substantially as herein specified.

In testimony whereof we have signed our names to this specification before two subscribing witnesses.

CHARLES JURON.

A. IMBERT.

JOANNES JURON.

L. IMBERT.

Witnesses:

W. BARTHELEMY,  
EMILE BARRAULT.