No. 770,963.

Patented September 27, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM D. GILMAN, OF SWEETWATER, TENNESSEE.

PROCESS OF BLEACHING BARYTES AND RECOVERING GLAUBER SALT.

SPECIFICATION forming part of Letters Patent No. 770,963, dated September 27, 1904.

Application filed December 28, 1903. Serial No. 186,904. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM D. GILMAN, a citizen of the United States of America, residing at Sweetwater, in the county of Monroe and State of Tennessee, have invented certain new and useful Improvements in Processes of Bleaching Barytes and Recovering Glauber Salt, of which the following is a specification.

The object of the invention is to accomplish the bleaching of barytes by the use of a comparatively inexpensive substance from which a marketable by-product can be recovered.

In carrying out my invention I make a solution of niter-cake, a by-product from the manufacture of nitric and sulfuric acid. To this solution crushed or ground barytes is added and the mixture heated until the iron and other soluble impurities of the ore are dissolved. The solution is run off and hot water added until the ore is properly washed. To the solution run off from this treatment, as well as to the stronger wash-water, an alkaline solution of sodium, as caustic soda, is added until the solution is alkaline and the iron and heavier impurities are precipitated. It is then allowed to settle, and the clear solution is concentrated by heat, if necessary, run into cooling-tanks, and allowed to crystallize. The crystals thus obtained are pure Glauber salt.

This process readily commends itself for the cheapness of the bleaching agent and the possibility of recovering a marketable by-product, which further reduces the cost of the bleaching process.

I claim as my invention—

The herein-described process for bleaching barytes and recovering Glauber salt which consists in mixing the crushed or ground barytes ore with a solution of niter-cake; heating the mixture to dissolve the impurities; drawing off said solution and washing the ore with hot water; adding to said solution and wash-water an alkaline solution of sodium to precipitate the impurities and leave Glauber salt in solution; and finally concentrating the resulting solution and allowing the Glauber salt to crystallize.

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

WILLIAM D. GILMAN.

Witnesses:

C. E. YOUNG,

G. M. MCKNIGHT.