UNITED STATES PATENT OFFICE.

FREDERICK GUTZKOW, OF SAN FRANCISCO, CALIFORNIA.

MANUFACTURE OF CARBONATE OF MAGNESIA.

SPECIFICATION forming part of Letters Patent No. 235,231, dated December 7, 1880.

Application filed April 1, 1880. (Specimens.)

To all whom it may concern:

Be it known that I, FREDERICK GUTZKOW, of the city and county of San Francisco, and State of California, have invented an Improved Process for Manufacturing Carbonate of Magnesia; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to an improved process or method of preparing the basic carbonate of magnesium, commonly called "magnesia alba," from liquids containing chloride of magnesium, and in particular from the mother-liquor of marine salt-works, called "bittern."

To do this I employ three successive steps or operations, using no other material but lime, water, and carbonic acid, and requiring no other apparatus but such as are commonly known.

In the first operation I mix the bittern with milk of lime in such proportion that there remains an excess of magnesia in solution, when the lime will dissolve as chloride of calcium, precipitating its equivalent weight of insoluble hydrate of magnesium.

To the second step or operation I remove the soluble salts of calcium and of other bases by washing the hydrate of magnesium with water, either by decantation or filtration.

To the third step or operation I run the pulp of hydrate of magnesium into a vessel, which may be constructed in the manner of the wet lime purifiers in use in gas-works, heat it by steam or otherwise to 120° Fahrenheit, and force through the pulp the gaseous products from the combustion of coke or other gas containing carbonic acid. Under the influence of the elevated temperature the hydrate of magnesium will combine with the carbonic acid into a carbonate which has the volume and lightness demanded of the commercial article, and the operation is finished when a dried sample of the pulp shows those qualities.

Instead of the temperature of 120° Fahrenheit, which I find by experience the most advantageous, a higher temperature may be employed. The pulp of the basic carbonate of magnesia is then drained and dried in the usual manner.

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

In the manufacture of magnesium carbonate, the described process of obtaining it in a light and flocculent form, which consists in heating the pulp of magnesium hydrate, and forcing carbonic-acid gas through the pulp while it is in a heated state, substantially as specified.

In witness whereof I have hereunto set my hand.

FREDERICK GUTZKOW.

Witnesses:

WM. F. CLARK,

EDWARD E. OSBORN.