

United States Patent Office.

GEORGE T. LEWIS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 67,992, dated August 20, 1867.

IMPROVED MODE OF TREATING PRECIPITATED LEAD TO DESTROY ITS CRYSTALLINE CHARACTER

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE T. LEWIS, of Philadelphia, in the county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in the Treatment of Precipitates of Lead; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

The nature of this invention consists in the mechanical treatment by friction and pressure of the precipitated carbonate of lead, obtained by bringing carbonic acid in contact with a solution of basic acetate of lead by the ordinary process known as the French process for making white lead by solution.

The carbonate of lead thus obtained by precipitation partakes more or less of a crystalline character, and is therefore deficient in the quality of opacity necessary to give what the painters term "body" or the covering principle that constitutes a good pigment. For this reason the precipitates of lead obtained by solution do not equal in commercial value the white lead produced with acetic vapor by the ordinary pot process, known as the Dutch process, of making white lead. These precipitates are deficient in both opacity and density, owing to their molecular arrangement or crystalline character. In order to overcome this difficulty, and render them opaque and dense, so as to constitute a white lead of good body or covering quality, I subject them to friction and pressure when they are thoroughly desiccated, or in the condition of a dry powder. By these mechanical means the atoms of the salt of lead are rendered in a certain degree amorphous and opaque by attrition, and at the same time have their density increased by condensation, whereby they form a pigment of greater body and better covering quality.

I do not confine myself to the use of any particular apparatus or machinery for producing the requisite amount of friction and pressure of the precipitates of lead, but I have found by experiment that the desired effects may be secured by grinding them, when in a dry state, with revolving rock-chasers or edge runners, such as are used in tempering flax seed. Ordinary millstones or other mechanical devices may be employed to produce the same result, without deviating from the principle of operation of my invention, but I prefer the plan described as the most effective.

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

Subjecting the precipitates of lead to the combined action of friction and pressure substantially as and for the purpose herein described.

GEORGE T. LEWIS.

Witnesses:

W. W. DOUGHERTY,
JAMES S. SMITH.