# UNITED STATES PATENT OFFICE.

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## ART OF MANUFACTURING WHITE LEAD.

SPECIFICATION forming part of Letters Patent No. 712,870, dated November 4, 1902.

Application filed July 29, 1902. Serial No. 117,539. (No specimens.)

*To all whom it may concern:*

Be it known that I, CHARLES HENRY VICKERMAN, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in the Art of Manufacturing White Lead, of which the following is a full, clear, and exact description.

My invention relates to the manufacture of white lead by the so-called "Dutch" process; and it consists more particularly in utilizing the ordinary domestic sumac instead of the tanbark, licorice-root, and divers other substances heretofore used for the purpose.

Incidental to several other processes it is necessary to leach the fibers of the stems and leaves of the domestic sumac plant. The resulting fibrous substance is colorless and is usually partially or wholly desiccated or comminuted. In this form it is peculiarly adapted for use in the process of making white lead for two distinct reasons—to wit, first, the fibrous material is divested of harmful coloring-matters, which might otherwise affect the color of the white lead, and, second, its carbonating power is much greater than that of tanbark, licorice-root, and analogous substances.

It appears that the fiber of the sumac, because of its rapid decomposition, throws off large volumes of $CO_2$, so that a comparatively small quantity of the substance is sufficient to carbonate a considerable quantity of the lead oxid.

I build my so-called "corroding-stack" in the usual manner, disposing the jars or pots in the relation understood by persons skilled in the art, and place the lead and carbonating agents in the jars or pots in the usual manner. This part of the process being old, I do not deem it necessary to describe it.

My invention consists, solely, in using sumac instead of other carbonating substances, as described above. It may be explained that tanbark, licorice-root, stable-sweepings, and practically all other organic substances used for the purpose of decomposing, and thereby carbonating the lead, are liable to one grave objection—to wit, they contain volatile substances, which are given off and which carry with them more or less coloring-matter. It is well known that coloring-matters, and especially volatile coloring-matters—*i.e.*, coloring-matters which can volatilize without undergoing chemical change—are very objectionable for use in carbonating lead. So far as I am aware, however, there is no carbonating process which is predicated partly upon the fact that the carbonating substance is divested of its coloring-matter before the beginning of the carbonating process. Neither am I aware that the step of removing the coloring-matter has ever been employed incidental to some prior process whereby the fibrous substance is first rendered colorless and then used as a carbonating agent. Aside from the question of coloration, however, the marvelous carbonating power and great cheapness of the domestic sumac plant conspire together to produce such a marked and unexpected result as would be sufficient to make a distinct advance in the art of manufacturing white lead by the Dutch process.

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

1. The improvement in the art of manufacturing white lead by the "Dutch" process, which consists in carbonating lead in the presence of fibers of the domestic sumac plant.

2. The improvement in the art of manufacturing white lead by the "Dutch" process, which consists in carbonating lead in the presence of fibers of the domestic sumac plant, said fibers having been previously leached and thereby divested of coloring-matters, thus preventing discoloration of the white lead as formed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES HENRY VICKERMAN.

Witnesses:
A. P. WETHERILL,
WEBSTER KING WETHERILL.