

UNITED STATES PATENT OFFICE.

FRANKLIN OSGOOD, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF OXIDE OF ZINC FOR PIGMENTS.

Specification forming part of Letters Patent No. **138,684**, dated May 6, 1873; application filed April 26, 1873.

To all whom it may concern:

Be it known that I, FRANKLIN OSGOOD, of the city, county, and State of New York, have invented a new and useful Improvement in the Manufacture of the Pigment known as Oxide of Zinc; and I hereby declare the following to be a full and exact description of the same.

Heretofore oxide of zinc has been manufactured from metallic zinc or spelter, and from its superior whiteness it is a very desirable article. It is superior to the oxide made from the ore by either the Wetherell or the retort furnaces. But when the metal has been used to produce the oxide, it has been done by means of retorts of one or another form, set in a furnace and heated from the outside—that is, the heat to vaporize the metal was outside the retort, and required the expenditure of a large amount of fuel, besides the great expense of the retorts. The labor and skill required to manage the retorts and furnaces is also a large item of expense, so that although the article produced is a superior one, it has not generally in this country been able to compete with the several processes of producing the oxide direct from the ore.

By my process, which is simple and little expensive, I have succeeded in making a superior article of oxide of zinc from the metal, by employing the metal itself mixed in with coal or other equivalent carbonaceous fuel, and heating it in what is known as the Wetherell furnace, or other equivalent furnace, much in the same manner as the oxide is produced in such furnaces from zinc ore.

The following description will enable any one skilled in the art to make and use my invention.

I take metallic zinc of commerce, or zinc dross derived from the treatment of ammoniacal skimmings, or any kind of metallic zinc,

and granulate it or reduce it to powder by any of the means suitable for that purpose. This zinc powder I then mix with coal-dust in about the proportion usual in making oxide of zinc direct from the ore, and place the mixture in a furnace where it can be heated and have a stream of air passed through or over it. I prefer what is known as the Wetherell furnace, now known and used for making oxide direct from the ore by the Wetherell process. Other forms of furnace may be used provided a constant blast of air may be passed through or over the mixture of coal and zinc.

Instead of mixing the powdered zinc with coal-dust, it may be sprinkled or thrown upon a coal fire in the furnace and applying the blast; or a mixture of zinc powder and coal-dust may be thrown upon a coal fire on the hearth of a furnace and the blast passed through it.

When a Wetherell furnace is used, the whole process may be conducted nearly the same as when using zinc ores. In any case the cooling and collecting of the oxide is the same as now generally practiced.

A muffle or retort furnace may be used if means are provided for driving a blast of air through or over the burning coal mixed with the metallic zinc.

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

The process herein described for manufacturing oxide of zinc from metallic zinc, the same consisting in heating the zinc mixed with coal and forcing a blast of air through or over the same, so as to form and carry off the oxide, substantially as set forth.

FRANKLIN OSGOOD.

Witnesses:

HENRY E. COLTON,
ROBERT REID.