

UNITED STATES PATENT OFFICE.

WILLIAM H. WAHL AND EDWARD Y. ELTONHEAD, OF PHILADELPHIA,
PENNSYLVANIA, ASSIGNORS OF ONE-THIRD OF THEIR RIGHT TO
CALEB H. HORNE, OF SAME PLACE.

IMPROVEMENT IN THE MANUFACTURE OF CHLORIDE OF ZINC.

Specification forming part of Letters Patent No. **220,449**, dated October 7, 1879; application filed
February 6, 1879.

To all whom it may concern:

Be it known that we, WILLIAM H. WAHL and EDWARD Y. ELTONHEAD, both of Philadelphia, Pennsylvania, have invented a new and useful Improvement in the Manufacture of Chloride of Zinc, of which the following is a specification.

Our invention consists of a new and cheap chloride of zinc, which can be used in many cases as an economical substitute for the more expensive chloride.

In galvanizing iron objects a zinc-iron alloy is formed, and this settles at the bottom of the vessel. This precipitate, which has been termed "dross," and should not be confounded with the impurities which rise to the surface, represents a loss on the average of nearly thirty-three per cent. of the zinc used.

It has been usual heretofore to remove this dross from the galvanizing-vessel at intervals and cast it into pigs, which are sold to the refiners, who reconvert as much of it as possible into pure zinc by the expensive process of distillation.

We have found that this so-called "precipitated dross" can be converted into a cheap chloride, available for many purposes, but especially useful in galvanizing operations, for the purpose of cleansing iron, in a manner described in a separate application for a patent, preparatory to subjecting the iron to the bath of molten zinc.

In order to convert the dross into a chloride, we proceed as follows: When it is removed from the bath of molten zinc, which is usually accomplished by perforated ladles, it is of a slushy consistency, but when it becomes cool

is quite as hard as, or harder than, ordinary zinc.

Instead of casting it into pigs, we let it fall while in its molten condition onto metal plates or stone slabs, or into water, so as to reduce it to that flaky or granular condition which will induce it to yield promptly to the action of the muriatic acid. As much of the latter must be used as will convert it into the chloride, the color of which distinguishes it from the ordinary commercial chloride of zinc. While the product thus obtained may not be as pure as ordinary chloride of zinc, it is available for many of the purposes to which ordinary chloride has been applied.

The importance of the invention appears most prominently when we take into account the fact that the zinc dross, most of which has heretofore only been utilized by expensive processes of refining, is converted into a chloride which can be sold much cheaper than commercial chloride of zinc, of which it must take the place in many branches of industry, for use as a cheap disinfectant, and for other purposes.

We claim as our invention—

As a new article of manufacture and commerce, the within-described crude commercial chloride of zinc.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM H. WAHL.

EDWARD Y. ELTONHEAD.

Witnesses:

WILLIAM J. COOPER,

HARRY SMITH.