

UNITED STATES PATENT OFFICE.

JAMES H. MASON, OF BROOKLYN, NEW YORK.

METHOD OF PREPARING BATTERY-ZINCS.

SPECIFICATION forming part of Letters Patent No. 428,684, dated May 27, 1890.

Application filed February 8, 1889. Serial No. 299,177. (No specimens.)

To all whom it may concern:

Be it known that I, JAMES H. MASON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in the Method of Preparing Battery-Zincs, of which the following is a specification.

Prior to my invention battery-zincs have been made of either rolled or cast plates. The rolled plates are much more durable than the cast plates; but they were heretofore amalgamated only on the surface by rubbing the mercury upon the plates, and this surface amalgamation does not last long in use, so that the plates have to be reamalgamated at frequent intervals. The cast plates are very brittle and are easily broken; but they have the advantage that they can be produced of a homogeneous composition of mercury and zinc by mixing the mercury with the zinc in a crucible while the zinc is in a fused or molten condition and then casting the plates.

The object of my invention is to produce a battery-zinc which is strong and durable and which is amalgamated throughout, so that the plate can be used without reamalgamation until it is used up.

In practicing my invention I take a strong zinc plate, preferably a rolled plate, and heat it to a suitable temperature, preferably to a dark-red heat. I then immerse the heated plate in an amalgamating solution of any

suitable composition, preferably a solution prepared in the proportion of one pound of mercury to one and one-half pound of nitric acid and nine pounds of muriatic acid. The heating of the plate causes the molecules of the zinc to separate or the pores of the zinc to open, so that upon its immersion the amalgamating solution permeates the entire body of the plate and conveys the mercury to every part thereof, causing the plate to become completely impregnated with the mercury. An immersion lasting a very short time, usually about a quarter of a minute, is sufficient to effect a thorough amalgamation of the plate. A rolled plate prepared in this manner is strong and durable, so that it can be manipulated and holes be drilled through it without liability of breakage, while it is thoroughly amalgamated, so that no reamalgamation will be required.

I claim as my invention—

The method of preparing battery-zincs, which consists in first heating the zinc and then immersing it in an amalgamating solution composed of mercury and acid, whereby the zinc is thoroughly amalgamated, substantially as set forth.

Witness my hand this 1st day of February, 1889.

JAMES H. MASON.

Witnesses:

GEORGE FENN,
ROBERT WOOD.