

UNITED STATES PATENT OFFICE.

FRANK F. EGGERS, OF SAN FRANCISCO, CALIFORNIA.

PROCESS OF MANUFACTURING BATTERY-ZINCS.

SPECIFICATION forming part of Letters Patent No. 413,438, dated October 22, 1889.

Application filed May 9, 1889. Serial No. 310,178. (No specimens.)

To all whom it may concern:

Be it known that I, FRANK F. EGGERS, of the city and county of San Francisco, State of California, have invented an Improvement in the Process of Manufacturing Battery-Zincs; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in what are called "battery-zincs," and it consists in combining the metal zinc with mercury and afterward compressing the compound into a bar of the proper form for use.

Various methods have been hitherto employed for the manufacture of zincs for battery use, in some of which the zinc is heated or melted and amalgamated with mercury and either cast into the proper form or left in a pulverized condition.

In my invention the zinc is first pulverized or made into a fine powder in any well-known manner, this metal being sufficiently friable to be broken up and pulverized under certain conditions. I then add to it diluted sulphuric acid, which will thoroughly clean the surface, and then add mercury thereto. The proportion of zinc and mercury may be varied, the object being to thoroughly incorporate the mercury with the zinc, and at the same time leave the compound hard enough so that it can be compressed into forms which will retain their shape. This mixture having been made, it is placed in molds or forms of suit-

able shape for battery purposes, and is then compressed under a powerful hydraulic or other press, which will result in uniting it into a solid homogeneous bar, in which the mercury is distributed throughout the whole mass of the zinc, instead of being simply contained upon the surface thereof. This method of forming the bar makes the bar somewhat porous or spongy, with interstices throughout its substance, which increase the surface upon which the battery-liquid can act; and I find that by this construction I greatly increase the effective power of the zinc-pole of the battery, while at the same time it will always remain bright and untarnished until it is entirely used up.

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

The improvement in the process of manufacturing battery-zincs, consisting in pulverizing the zinc, applying thereto diluted sulphuric acid and mixing mercury therewith, and afterward compressing the mixture, without heat, into bars or forms, substantially as herein described.

In witness whereof I have hereunto set my hand.

FRANK F. EGGERS.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.