

UNITED STATES PATENT OFFICE.

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GALVANIZED IRON.

1,273,358.

Specification of Letters Patent.

Patented July 23, 1918.

No Drawing.

Application filed March 23, 1918. Serial No. 224,311.

To all whom it may concern:

Be it known that I, JAMES H. GRAVELL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Galvanized Iron, (Case 26,) of which the following is a specification.

The principal object of the present invention is to provide galvanized iron possessed of improved endurance when exposed unpainted to the weather, and capable of retaining paint without peeling under those conditions. To this and other ends, herein after set forth, the invention, generally stated, comprises a galvanized iron provided with a superficial coating of zinc phosphate which resists the action of the weather upon the iron and to which paint is strongly adherent.

A coating of zinc phosphate may be produced upon articles of galvanized iron by boiling them for about two hours in, for example, a half of one per cent. solution of phosphoric acid in water. When this is done the coating of zinc phosphate contains no water soluble salts of zinc and therefore is well adapted to withstand moisture even

though unpainted, but the invention is not limited to the described process of producing a coating substantially of zinc phosphate upon galvanized iron.

Galvanized iron provided with a superficial coating of zinc phosphate may be exposed to the weather and to atmospheric conditions without rusting or otherwise deteriorating for a much longer time than galvanized iron without such a coating, and the coating of zinc phosphate, being absorbent or somewhat porous, strongly retains paint and avoids its peeling off. The superficial coat of zinc phosphate is formed from the zinc with which iron is coated in the galvanizing operation and therefore is strongly adherent.

What I claim is:

1. An improved article of manufacture consisting of galvanized iron provided with a superficial coating of zinc phosphate, substantially as described.

2. An improved article of manufacture consisting of galvanized iron provided with a superficial coating of zinc phosphate and having a coat of paint adherent to the zinc phosphate, substantially as described.

JAMES H. GRAVELL.