

UNITED STATES PATENT OFFICE.

OCTAVE GAUDUIN, JEAN B. J. MIGNON, AND STANISLAS H. ROUART, OF
PARIS, FRANCE.

IMPROVEMENT IN COATING METALS WITH COPPER.

Specification forming part of Letters Patent No. **141,132**, dated July 22, 1873; application filed
February 11, 1873.

To all whom it may concern:

Be it known that we, OCTAVE GAUDUIN, chemist, JEAN BAPTISTE JAVA MIGNON, and STANISLAS HENRY ROUART, both manufacturers, of Paris, France, have invented Methods, Processes, and Apparatus for Coating Wrought-Iron, Steel, and Cast-Iron with Copper or Alloys of Copper, of which the following is a specification:

Many unsuccessful attempts have been already made to copper wrought-iron, steel, or cast-iron; but the coating of copper was never sufficiently adherent, and by want of thickness or of homogeneity was speedily destroyed. With this process it is easy to cover wrought-iron, steel, and cast-iron with a coating of copper, of gun-metal, of yellow copper, of aluminium bronze, or other similar alloys, the said coating being adherent, homogeneous, and as thick as may be desired.

A mixture of one part of dry chloride or fluoride of copper and five or six parts of cryolite, to which may be added a certain quantity of chloride of barium to render it more fusible, is melted in a crucible or an oven made of carbon. Such proportions may vary in great limits.

When the mixture is well melted the wrought-iron, steel, or cast-iron goods to be coppered and scoured at first are dipped in the mixture, and, acting by way of affinity, remove the copper from its combination, and

are covered with an adherent coat, more or less thick, according to the delay of immersion and of concentration of the bath.

The use of an electric current, having the negative pole in contact with the goods to be coppered, and the positive pole with an ingot of copper immersed in the bath, offers the advantage of keeping the mixture constant and making the deposit easier. A crucible of copper, which may make part of the circuit, may also be used. Other salts of copper, mixed or not with cryolite or with other alkaline salts or earthy alkaline salts, may give the same results; but the inventors claim as their invention the idea of decomposing the melted simple salts of copper, or combined with other salts by way of affinity.

We claim—

The process of coating articles with copper by immersing said articles in a bath of fused copper salts, with or without other materials, as set forth.

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

OCTAVE GAUDUIN.
JEAN BAPTISTE JAVA MIGNON.
STANISLAS HENRI ROUART.

Witnesses:

EDMOND THIBAUT,
EMILE RICHARD.