UNITED STATES PATENT OFFICE.

JOSEPH H. HINES, OF PHILADELPHIA, PENNSYLVANIA.

ORNAMENTING METAL.

SPECIFICATION forming part of Letters Patent No. 510,340, dated December 5, 1893.

Application filed August 21, 1893. Serial No. 483,676. (No specimens.)

To all whom it may concern:

Be it known that I, JOSEPH H. HINES, a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Ornamenting Metal; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in processes for the ornamentation of metal,—the object of the invention being to produce simple and efficient means whereby to enamel iron or steel or a metal of which iron or steel is the base, for use in the arts, manufacturing, electrical and household goods.

A further object is to produce an enamel surface that will hold to the surface to which it is applied and not be affected by rust,—so as not to peel off by moisture or chemicals coming in contact with the iron or steel or other metal of which iron or steel is the base, or between the enamel and the iron or steel by any slight imperfection in the coating or crack in the handling causing the enamel to peel off and render the article of no value.

With these objects in view the invention consists in certain novel steps in the process of enameling as hereinafter set forth and pointed out in the claim.

The mode of procedure for the accomplishment of the object in view, is as follows:

I first remove all scale, tarnish, grease or any foreign substance from the iron, steel or metal of which iron or steel is the base. I then deposit copper, aluminium or any other metal which is non-corrosive, which metal shall be of such thickness as will stand the action of fire in the process of enameling and to protect any portion that may be imperfectly coated or cracked in handling. I then place the coating of enamel on the surface of the copper, aluminium or any other non-corrosive metallic surface, by dipping or placing a wet or dry powder, as the article will permit of. Place the article in the furnace or kiln and melt the enamel in and on the surface which may be coated a second or a third time at the option of the operator or kind of article being coated which is then ready for use or decoration.

By the above process, articles may be coated in whole or in part, and the part left there may be burnished, gilded or used in any other manner to form decoration or will enable other articles to be soldered, or brazed to it and special electrical appliances may be made from it, as the enamel surface forms a perfect non-conductor for electrical surfaces.

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

The herein described process of ornamenting metal consisting in first removing all scale, tarnish, grease, or other foreign substance, then depositing copper, aluminium or other non-corrodible metal thereon, enameling, then placing the enameled article in the furnace or kiln whereby to melt the enamel, and finally coating a second or third time with enamel, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOS. H. HINES.

Witnesses:
H. MACKEY,
WM. H. W. QUICK.