UNITED STATES PATENT OFFICE.

HENRY ABBOTT, OF NEWARK, NEW JERSEY.

ORNAMENTATION OF GLAZED ENAMELED SURFACES.

SPECIFICATION forming part of Letters Patent No. 310,112, dated December 30, 1884.

Application filed February 16, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, HENRY ABBOTT, of Newark, in the county of Essex, and in the State of New Jersey, have invented certain new and useful Improvements in the Ornamentation of Glazed or Enameled Surfaces; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object the production of colored vitrified designs upon enameled or glazed surfaces; and to this end it consists in the method employed for applying to and permanently securing upon enameled or glazed surfaces designs in vitrifiable colors, substantially as hereinafter specified.

To carry my invention into effect I first have the required design engraved or etched upon a plate, preferably copper, and then fill the lines or depressions forming such design with colored material—such as is used in encaustic painting on enamel—after which I flow over the plate thus prepared liquid collodion or other like substance, and after the same has become partially set by evaporation place the said coated plate in a bath of water, to which has been added an acid and cyanide of potassium. After the plate has remained in the bath a sufficient length of time the collodion film will become partially loosened from its surface, after which said plate is placed in a horizontal position, a sheet of paper is laid upon said film, and, by means of a knife and pliers, one edge of the latter, together with said paper, is raised, and the whole then stripped from off said plate. The paper-backed film is now laid, face downward, upon a sheet of wetted paper, and said paper-backing then removed, after which all moisture is removed from the exposed back of said film by means of absorbent paper, and a roller and the film then placed upon the surface to be ornamented and firmly pressed upon the same by rolling or rubbing pressure. The tacky condition of the collodion causes it to firmly adhere to the glazed surface, so that the paper which covers its face may be readily stripped therefrom without disturbing the film, after which the article thus ornamented is placed within a muffle or other suitable apparatus and subjected to such a degree of temperature as to cause the colors forming the design to become fused and incorporated into the underlying surface. The action of the heat causes the film of collodion to speedily become dissipated, so as to leave nothing upon the surface of the article being ornamented except the colored design, and during such dissipation or evaporation not even the finest line of said design is changed in position or injured, and the ornamentation possesses all of the accuracy and perfection of the original engraving.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The method employed for applying to and permanently securing upon enameled or glazed surfaces designs in vitrifiable colors, consisting, first, in filling the sunk portions of an engraved or etched plate with colored material, then flowing over said plate liquid collodion, and causing the same to permeate and become incorporated with said colored material, then removing from said plate said film with its adhering or incorporated design, then placing said film, back downward, upon the glazed surface, and, lastly, applying heat to the article thus ornamented, and causing said film to become dissipated and said design to become fused and incorporated with the underlying surface, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of January, 1884.

HENRY ABBOTT.

Witnesses:
JOHN F. SHELLY,
D. FRANK LLOYD.