

UNITED STATES PATENT OFFICE.

THEODOR HÄUSERMANN, OF VIENNA, AUSTRIA-HUNGARY.

PROCESS OF PRODUCING PHOTOGRAPHIC ORNAMENTATIONS ON METAL, &c.

SPECIFICATION forming part of Letters Patent No. 616,706, dated December 27, 1898.

Application filed July 23, 1897. Serial No. 645,698. (No specimens.)

To all whom it may concern:

Be it known that I, THEODOR HÄUSERMANN, a subject of the Emperor of Austria-Hungary, residing at Vienna, in the Province of Lower Austria, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Processes of Producing Photographic Ornamentations on Metal, &c., (for which I have obtained patents in Austria, No. 46/2,045, dated May 23, 1896; in France, No. 257,943, dated July 9, 1896; in Belgium, No. 122,425, dated July 9, 1896; in Great Britain, No. 14,927, dated July 6, 1896, and in Germany, No. 90,721, dated July 12, 1896,) of which the following is a specification.

This invention relates to a process for dyeing or ornamenting objects of metal, porcelain, or the like, the objects being first provided with a coating of a specially-prepared glue, which is sensitive to light. Then they are exposed to light and then heated to a temperature of about 300° to 400° centigrade. If some portions of the objects are to remain undyed, then they are covered for the purpose of protecting them from the action of the light.

The drawings or ornaments are produced by exposure to light of a negative or templet pattern of the desired drawing. At first the object is provided with a coating of my specially-prepared glue. Then it is exposed to the light, either the whole surface or the parts which are not covered, and then the parts which are not fixed are removed by washing. The fixed, but still colorless, parts of the object may then be treated with a solution of water-color or anilin in order to make them more visible. This is, however, not essential. It serves only to facilitate the correction and repair of the drawing. Finally, after the coating has been dried it is heated to a temperature of 300° to 400° centigrade, preferably by a gas-heater, whereby the surface is dyed from brown to black.

For obtaining the composition which is sensitive to light I prefer the following proportions: one hundred cubic centimeters of distilled water, sixty to eighty grams of fish-glue or isinglass, 3.3 grams of ammonium bichromate or ammonium chromate, 1.3 grams of aluminium chromate, 4.7 cubic centimeters of ammonia of specific gravity 0.914, and 4.7 cubic centimeters of alcohol. This mixture is made by dissolving successively, while constantly stirring, sixty to eighty grams of isinglass in forty cubic centimeters of water,

3.3 grams of ammonium chromate in forty cubic centimeters of water, 1.3 grams of aluminium chromate in twenty cubic centimeters of water, and, while constantly stirring, adding by drops the alcohol and ammonia.

The proportions of the ingredients mentioned may be varied within certain limits without departing from the nature of this invention.

When desired, the objects may further be coated with a lac or the like.

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

1. The process for dyeing or ornamenting objects of metal, porcelain, &c., in colors from brown to black, consisting in coating the said objects with a glue sensitive to light, then exposing the same to the light by means of a negative or a cut-out pattern, then washing out the glue not acted upon by the light and thereupon heating the objects to a temperature of 300° to 400° centigrade, as specified.

2. The process for dyeing or ornamenting objects of metal, porcelain, &c., in colors from brown to black consisting in coating the objects with a glue which is sensitive to light, exposing the same then to light by means of negatives or cut-out patterns, then washing out the glue not acted upon by the light, then heating the objects so treated to a temperature of 300° to 400° centigrade and then producing a transparent and protective coating on the surface, as specified.

3. The process of compounding a composition for coating objects of metal, porcelain, &c., which is sensitive to light consisting in mixing the following solutions while constantly stirring, viz: a solution of sixty to eighty grams of fish-glue in forty cubic centimeters of water, a solution of 3.3 grams of ammonium chromate in forty cubic centimeters of water, a solution of 1.3 grams of aluminium chromate in twenty cubic centimeters of water, then adding by drops 4.7 cubic centimeters of ammonium hydrate of 0.914 specific gravity and 4.7 cubic centimeters of alcohol, substantially as described.

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

THEODOR HÄUSERMANN.

Witnesses:

HARRY BELMONT,
WILHELM BERGER.