UNITED STATES PATENT OFFICE.

HENRI PERRIN, OF SÉRÉZIN DU RHÔNE, FRANCE.

PROCESS OF PRODUCING ENAMELED POLYCHROME PHOTOGRAPHS, &c.

SPECIFICATION forming part of Letters Patent No. 708,918, dated September 9, 1902.

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To all whom it may concern:

Be it known that I, HENRI PERRIN, a citizen of the Republic of France, residing at 9 Place de la Mairie, Sérézin du Rhône, department of Isère, Republic of France, have invented a certain new and useful Improvement in Processes of Producing Enameled Polychrome Photographs, Artistic Stained Glass, and other Like Decorations, of which the following is a specification.

The present invention relates generally to the production of photographic enamels. The process which I have devised for that purpose enables me to obtain photographic enamels in several colors in an improved manner. The said process differs from processes hitherto known in that it is expeditious, simpler, and cheaper and also in that the results it gives are much superior in fineness to enamels produced by the processes hitherto known.

The process more generally employed for producing photographic enamels consists, broadly speaking, in applying upon a plate of glass acting as a support a layer of gelatin sensitized with a chrome salt, in impressing the layer by exposure under a positive, in developing the sensitized surface by passing thereover a brush dipped into a powdered vitrifiable color, (which color adheres more or less under the shades of the model and does not take at all or only slightly on the light-toned surfaces,) in eliminating, by means of an acid-bath, that portion of the chrome salts which has not been decomposed by the action of light, and finally in baking the image so attained at a temperature suitable for vitrifying the color employed. When it is desired to reverse the image or to bake it upon a support other than a plate of glass—say a sheet of enameled copper—it is necessary to effect a transfer prior to the vitrification operation by the usual means. The process is then completed when a monochrome enamel is desired. If now a polychrome enamel is desired, it is necessary to paint the monochrome image, already vitrified, by using liquid transparent vitrifiable colors, the said colors being applied by means of a paint-brush, as is the case when it becomes a question of applying colors to an ordinary photograph on paper. A second vitrifying operation is effected, which may even be followed by several others when retouches are necessary. The enamel in colors is then completely finished.

I shall now proceed to describe my process, which presents important advantages in comparison with those hitherto known.

Over the sensitized surface after it has been exposed under the model, as hereinbefore explained, I pass a brush dipped into a vitrifiable powder having a neutral tint (gray or brown) in such a manner that all the contours and details of the model shall be neatly but slightly set out. I then have a weak monochrome image on which the colors desired may be applied, and this prior to vitrification. Now by means of suitable brushes of a size suited to the details of the image upon which I operate I superpose vitrifiable powders, beginning first with the darkest, which on baking stand out under the lighter colors laid over them and combine therewith in giving the desired tint or tone. The colors having been applied, I proceed to eliminate the salts of chrome by the usual means, and I effect the desired final result by a single baking operation.

My invention may be employed for reproducing (with all the fineness of the model used) all pictures, drawings, engravings, views, portraits, landscapes, &c., whether it be desired to decorate enameled glass, earthenware, porcelain, metals, or other suitable substances. Its advantage is considerable, especially in respect of the art of making stained glass, which it is now possible to make at trifling cost, all artistic work and multiple baking operations being done away with, together with the numerous breakings to which the article is subject in view of repeated bakings.

I claim—

1. The process of producing vitrified enameled polychrome articles, which consists in taking a suitable transparent or translucent base, applying to said base a layer of sensitized emulsion, impressing the outlines of a picture upon said layer, brushing the said sensitized surface with vitrifiable powder, successively superimposing on said powder vitrifiable colors, eliminating the undecomposed part of the emulsion and baking the article, substantially as described.

2. The process of producing vitrified enam-

eled polychrome articles, which consists in taking a suitable transparent or translucent base, applying to said base a layer of sensitized emulsion, impressing the outlines of a picture upon said layer by the action of light, brushing said sensitized surface with vitrifiable powder having a neutral tint, successively applying vitrifiable powders of different colors, the darkest underneath, eliminating the undecomposed part of the sensitized emulsion and vitrifying the article, substantially as described.

In witness whereof I have hereunto set my hand, this 12th day of March, 1902, in the presence of two subscribing witnesses.

HENRI PERRIN.

Witnesses:
L. ARINGUES,
ETENWALD.