

UNITED STATES PATENT OFFICE.

EMILE GÉRARD, OF LIMOGES, FRANCE.

DECORATED HARD PORCELAIN AND PROCESS OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 544,784, dated August 20, 1895.

Application filed April 26, 1894. Serial No. 509,018. (Specimens.)

To all whom it may concern:

Be it known that I, EMILE GÉRARD, of the city of Limoges, Haute-Vienne, France, have invented a new Decorated Hard Porcelain and Process of Making the Same, of which the following is a full, clear, and exact description.

This invention relates to a process for the decoration of hard porcelain and to the new product resulting therefrom. Hitherto the decoration of porcelain has been effected by two distinct processes. For kiln-fired porcelain the decoration is applied upon the article before baking—that is to say, upon the paste—and the colors composing the decoration are subjected to the same temperature as that required for baking the paste and glazing the enamel—viz: about 1,700° centigrade.

The process of decoration with the aid of a muffle is applied to goods which have been fired, so that the paste and enamel have been already converted into porcelain—in other words, articles in a finished state ready for use. In this case the temperature necessary for vitrifying the colors is only about 800° centigrade. In this case the decoration is not embodied in the porcelain, since a temperature of 1,700° centigrade is necessary to fuse the enamel and soften the ware, whereas a temperature of 800° suffices to fix the colors in a muffle upon articles which have been already baked. Hence the decoration presents a more or less hard appearance and is more or less rough to the touch. Moreover, the decoration being applied by mere superposition and not penetrating the porcelain has the further disadvantage of being liable to change and even wear off. Notwithstanding these objections the muffle-fired decoration is almost exclusively employed on account of its cheapness. The decoration of kiln-fired porcelain prevents such difficulties, owing to the necessity of applying it upon the paste before baking, that its cost is such as to render its employment for commercial purposes impossible and limit its application almost entirely to objects of art.

Recognizing the great importance of being able to decorate porcelain by kiln-firing in a

practical manner and having found from experience that the kiln-firing of the decoration applied beneath the enamel—that is to say, upon the paste before baking—could not lead to any commercial result, I have conceived the idea of decorating porcelain by means of a series of colors capable of being applied upon porcelain already manufactured and baked and capable of withstanding the high temperature of the kiln. These decorations may be in form or imitation of flowers, animals, or other fanciful design. These colors may either be applied by painting or by the chromolithographic process. As in the latter case, the film of color yielded by the lithographic stone is relatively very thin. It would be of advantage, in order to obtain a sufficient thickness of color, to apply two, three, and sometimes four impressions of the same color, so as by this superposition of the colors to enable most of the colors required for the decoration of porcelain to be applied by the chromolithographic process. After applying the color to the kiln-fired porcelain the latter is again fired in the like kiln at the same high temperature and under the same conditions as for the first firing.

My invention has reference to the decoration of porcelain and not to the production of mere ground-coloring.

I claim—

1. The process of decorating hard porcelain, which consists in applying the colors upon manufactured porcelain either by painting or by chromolithography and then firing the porcelain a second time at the same high temperature and under the same conditions as for the first firing.

2. As a new article of manufacture, a fired glazed decorated porcelain article, said fired glaze having absorbed within it and as a part of it a decorative colored design.

The foregoing specification of my process of decorating hard porcelain signed by me this 21st day of March, 1894.

EMILE GÉRARD.

Witnesses:

PAUL ETUBEST,
LOUIS GOUSTAUD.