

UNITED STATES PATENT OFFICE.

FRANÇOIS SCHMALZ, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE PHOTO-LITHO TRANSFER COMPANY, OF SAME PLACE.

PROCESS OF ORNAMENTING VITREOUS WARES.

SPECIFICATION forming part of Letters Patent No. 493,449, dated March 14, 1893.

Application filed April 26, 1892. Serial No. 430,782. (No specimens.)

To all whom it may concern:

Be it known that I, FRANÇOIS SCHMALZ, a citizen of the United States, residing in the city and county of New York, in the State of New York, have invented a certain new and useful Process of Ornamenting Glass, Porcelain, and other Vitreous Wares, of which the following is a specification, such as will enable others skilled in the art to which it appertains to perform and use the same.

The object of my invention is to provide a process by which articles made of glass, porcelain, enameled metals, or other vitrifiable wares, may be ornamented cheaply and artistically with enamel or vitrifiable colors, so that the ornamentation cannot be destroyed without destroying the article ornamented.

To carry my invention into effect, a suitable paper backing is first prepared to receive the design by being coated upon one side with dextrine, which is soluble in cold water. When the film so formed has become dry, the desired design is formed thereon in any suitable manner with vitrifiable colors held in suspension in a suitable varnish. I prefer, however, to form the design on the soluble film by printing the same thereon with a suitable printing block, using lithographers' varnish instead of ink as a vehicle for the colors, and then dusting or sprinkling the vitrifiable colors onto the design in a finely pulverized form while still wet, so that said colors will stick to and be held in place on the soluble film, when the varnish becomes dry. If the design is to be of more than one color, it should receive an impression and be sprinkled over with each color, and be allowed to dry after each printing, and before another impression is made. After the design thus formed has become dry, it, and preferably the entire soluble film, is covered with a film of collodion by flowing liquid collodion over the design in the manner photographers flow it over photographic plates, and when the collodion film is dry, the design is ready for use.

I use collodion for the film over the design because it is volatilizable under heat, and when burned away leaves no perceptible ash.

To transfer such designs to an article to be ornamented, I wet the collodion film and then press it against said article and allow it to dry. After it has become dry, I saturate the backing with water, thereby dissolving the soluble film, and then remove said backing, when the collodion film will be found carrying the design and adhering to the article, ready to be burned into the same.

The operation of burning in the design is performed in the well known manner by placing the article having the design attached thereto in a porcelain decorator's furnace, and then subjecting the same to a sufficient heat to melt and vitrify the colors, and burn them into the surface of the article. During the burning, both the collodion film and the varnish which holds the colors in place will be volatilized or burned up, leaving no ash or stain on the ware, the colors only burning into and coloring the same.

I do not in this application claim the design formed by the process herein described, as I have claimed such design in a separate application filed simultaneously herewith.

Having fully described my invention and the manner of using it, what I claim, and desire to secure by Letters Patent, is—

The herein described process of ornamenting vitreous wares, which consists in forming a soluble film upon a suitable backing, forming a design upon such film in vitrifiable colors held in suspension in a suitable varnish, covering the design with a film of collodion, affixing the collodion film to the article to be ornamented, dissolving the soluble film, removing the backing, and subjecting the article to sufficient heat to burn in the vitrifiable colors, substantially as described.

Signed at the city and county of New York, in the State of New York, this 23d day of April, A. D. 1892.

FRANÇOIS SCHMALZ.

Witnesses:

GEO. E. HERNE,
CLARENCE L. DAVIS,