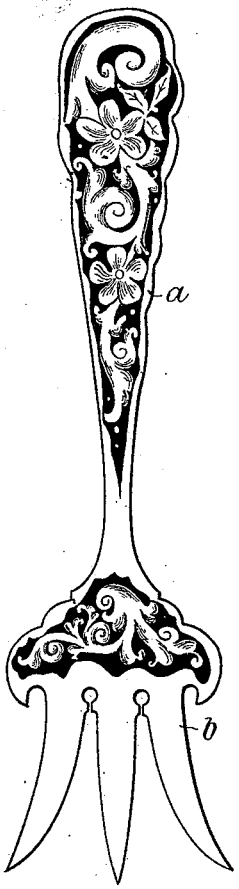
(No Model.)

G. MYRICK & W. ROLLER.

METHOD OF ETCHING AND OXIDIZING GOLD PLATED SILVER WARE.

No. 421,009. Patented Feb. 11, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE MYRICK AND WILLIAM ROLLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO MYRICK, ROLLER & HOLBROOK, OF SAME PLACE.

METHOD OF ETCHING AND OXIDIZING GOLD-PLATED SILVER-WARE.

SPECIFICATION forming part of Letters Patent No. 421,009, dated February 11, 1890.

Application filed October 1, 1889. Serial No. 325,671. (No model.)

To all whom it may concern:

Be it known that we, GEORGE MYRICK and WILLIAM ROLLER, both citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Process of Etching and Oxidizing Gold-Plated Silver-Ware, of which the following is a specification.

Our invention relates to certain improvements in the method of etching, decorating, ornamenting, and oxidizing gold-plated silver-ware.

The principal object of our invention is to provide a comparatively simple and efficient method of etching gold-plated silver articles and oxidizing the same.

Our invention consists in painting or tracing the design or ornamental figures in an acid-resisting substance or material onto the gold-plated silver-ware; then subjecting the exposed portions around about the design or ornamental figures to the action of muriatic and nitric acids to cause the article to be etched out or eaten away to the ground; then washing the article and subjecting the same to the action of nitric acid to cause a portion of the silver or ground metal to be further eaten away; then oxidizing the etched-out and decorated or ornamented article still containing the paint or coating of acid-resisting substance or materials, and finally removing the same, whereby the article is brought to its completed state or condition for use.

A convenient method of carrying our invention into effect is as follows: Onto the article to be treated, composed of gold plate preferably upon sterling silver, the particular design or configuration is painted or traced in an acid-resistant paint—such as asphaltum or other preferred material—by means of a brush or other preferred device, care being taken to see that the portion or parts of the article in which the gold is to be retained is protected by the resisting substance or materials, so that in the action of the acids upon the exposed portion or parts they will be fully protected or rendered acid-proof. The paint or coating is then permitted to dry, or is artificially dried in any preferred manner. When the painted or coated article has become dry, it is subjected to a bath composed of muriatic and nitric acids, in the proportion of two to one, (more or less,) for a sufficient length of time to allow of the corrosion or eating away of the exposed portions of the plated article to the silver ground, when the same may be washed in water to remove all traces of acid, whereby the exposed portion or parts of the gold-plated article will be eaten away or etched into the silver background. The still coated or painted portions of the article around about the etched portions may then be subjected to a bath composed of pure nitric acid for a brief period of time to cause a further slight corrosion of the silver ground around about the edges or portions etched out, and thus to more thoroughly insure the article assuming a finished effect. The article, having undergone the nitric-acid stage of the process, may then be washed in water. The article may then be subjected to the action of a bath composed of pearlash and water, or saltpeter, alum, soda, or sulphuric acid, if it is desired to produce in the etched-out portion or parts thereof a white enameled effect; or, if not, after the article has undergone the nitric-acid step and has been washed in water to remove all traces of acid adhering thereto, it is subjected for a sufficient time to the action of an aqueous solution composed of platinum and muriatic and nitric acids, in about the proportions of three to one, when the article may be removed therefrom, washed, and the coating of acid-resisting substance or materials removed by means of benzine, turpentine, or other preferred material, whereby will be exposed to view in the article the particular design or configuration in gold required in bold relief and with an oxidized background for use.

In the accompanying drawing is shown a sardine-fork embodying the particular features of our invention, with the handle or arm *a*, after having been treated in the manner hereinbefore described, oxidized between and around about the ornamental or decorated portion or parts of the article, and the portion or parts thereof beyond the prong *b* also oxidized in a similar manner. The finished fork or other article gold-plated on preferably sterling silver and etched out and oxidized, and

also ornamented with fanciful designs or configurations, not only gives a pleasing effect thereto, but also materially enhances the value thereof.

Having thus described the nature and objects of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The method of producing in a gold-plated article on silver an ornamental design in bold relief and an oxidized background, which consists in applying an acid-resisting substance to the article and tracing the design through the same, then subjecting exposed portions to a bath of muriatic and nitric acids, then immersing the article in a solution of platinum and muriatic and nitric acids, and then removing the acid-resisting substance or materials from the article, substantially as and for the purposes described.

2. The method of producing in a gold-plated article on silver an ornamental design in bold relief and an oxidized background, which consists in applying an acid-resistant to the article and tracing the design through the same, then immersing the coated article in muriatic and nitric acids and afterward in a bath of nitric acid, then subjecting the article to the action of a solution of platinum and muriatic and nitric acids, and then removing said acid-resistant, substantially as and for the purposes described.

In witness whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

GEORGE MYRICK.
WILLIAM ROLLER.

Witnesses:
GEO. W. REED,
THOMAS M. SMITH.