

United States Patent Office.

ELBRIDGE G. WRIGHT, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 100,580, dated March 8, 1870.

IMPROVEMENT IN INLAYING METALLIC SURFACES.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, ELBRIDGE G. WRIGHT, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in the Inlaying of Metals or Surfaces for their ornamentation; and I do hereby declare the same to be fully described in the following specification.

My invention or new process of inlaying a metal consists as follows:

First, in covering the surface of the article to be inlaid with a thin layer of varnish or composition, which will resist the metallic solution of an electro-plating bath, and when the figure is to be made by the etching process, will resist the acid used in conducting such. For this purpose I usually employ as a resistant what is termed copal, mastic, or Italian varnish, or a layer of the same and a layer of collodion placed on the varnish.

Second, in next etching, engraving, or chiseling through the said resisting layer or layers, and into and below the surface to be ornamented, the figure or figures, whatever such may be, using for such purposes the tools employed by engravers for etching or engraving surfaces.

Third, in next placing the object so covered with the resisting medium, and etched, cut into, or engraved, into the bath of an electro-plating apparatus, the liquid of which is charged with the salt of the metal I may be desirous of depositing. Next, the object or article is to be put in the electric current of such apparatus, or is to have such applied to it, so as to cause the metal of the solution to be deposited upon and in the engraved portions, without being deposited upon the contiguous parts of the surface, except it be on such as may have no resisting medium on them.

By means of the etching or engraving, the deposited metal of the ornamentation will be arranged or laid below the rest of the surface, or that immediately contiguous to or bounding the engraved portions, such arrangement serving to protect it from being worn off or away when the main or unengraved parts are exposed to wear, or being cleaned from time to time.

By my process, articles of silver or silver-plated ware may be beautifully ornamented with gold engraving or figures, presenting a golden surface on a ground of silver, or a golden surface or article may be thus ornamented with silver engraving.

An article made of wood, or other substance not metallic, may be inlaid with metal by the said process, provided the surfaces of the engraved parts be care-

fully covered with metallic leaf, or foil, or plumbago, and be so arranged with each other and the electric current of the plating bath, as to cause the metal to be deposited on the parts on which the plumbago or metallic leaf may have been laid.

In this way articles of furniture may be inlaid with metal to great advantage, and if care be taken to make the engraved or incised grooves or furrows dovetailed in transverse section, the metal deposited in them will be retained therein to better advantage.

What is termed "metal arabesque," or "bull work," may be produced by my process to great advantage and economy, with respect to the modes heretofore practiced.

I am aware that it is not new to cover a surface with a varnish, wax, or other resisting medium to prevent the deposit of metal on it, when placed within an electro-plating bath.

I am also aware that it is not new to so protect parts of a surface to be exposed to an acid, in order that other parts of such surface, when exposed to its action, may be reduced by such acid.

I am also aware that it is not new to engrave a surface by a graver or graving-tool, or other means.

I am also aware that engraved surfaces have had metal deposited in them by an electro-plating apparatus while they may have been placed in its bath, such being to cover with metal, at one and the same time, not only the engraved, but the unengraved portions of such surfaces.

Consequently, I make no claim to either of such operations in the abstract, or by itself; but the combination of the covering a surface with the resisting medium of the nature substantially as described, and the subsequent removal of parts thereof, and the surface by engraving or cutting into the medium and surface, and next placing the surfaces so protected and engraved into an electro-plating bath, and by means of it depositing metal on the engraved parts, so as to leave the protected part or portions without any metallic deposit on it or them, whereby the deposited metal is arranged below the protected surface, I believe to be new or a new method of ornamenting or inlaying a surface.

And, therefore, I claim the said method as my invention.

E. G. WRIGHT.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.