UNITED STATES PATENT OFFICE.

THOMAS MORRIS ASH AND HENRY WILLIAM GILL, OF BIRMINGHAM, ASSIGNORS OF ONE-HALF TO LAURENCE GREEN, OF MAIDSTONE, ENGLAND.

PROCESS OF COATING NON-METALLIC ARTICLES WITH METAL.

SPECIFICATION forming part of Letters Patent No. 509,280, dated November 21, 1893.

Application filed March 20, 1893. Serial No. 466,851. (No specimens.)

To all whom it may concern:

Be it known that we, THOMAS MORRIS ASH and HENRY WILLIAM GILL, both subjects of Her Majesty the Queen of Great Britain, residing at Birmingham, in the county of Warwick, England, have invented a certain new and useful Improved Process of Coating or Plating Non-Metallic Articles with Metal; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the coating or plating with metal of non-metallic articles, such as paper, papier maché and other fibrous or textile articles or natural objects such as the leaves of plants, wood in various forms, or a combination of these or other non-metallic materials.

The invention consists in first covering the article to be plated with a suitable medium containing, or upon which is subsequently placed, metal in a fine state of division, and then submitting the article to the action of nitrate of silver. The article so treated may then be electro-plated in any ordinary way and with any of the usual metals.

For the purpose of illustration we will describe our invention with reference to the coating or plating of a leaf of ivy, as from this description the application of the invention generally will be clearly understood.

The leaf being clean and dry is momentarily immersed in a bath of fine varnish such as copal, shellac or spirit varnish, or other adhesive compound not soluble in water, with which is intimately mixed copper, tin, or the like, in a minutely divided state. The leaf is then withdrawn and washed in water or brushed over to remove any superfluous metal or varnish, and after preliminary drying so that the medium is somewhat set, is immersed for a period of about one-half a minute to five minutes in a bath of nitrate of silver, and on withdrawal therefrom is preferably again washed and dried, although this is not absolutely necessary, when it will be found to be coated with a precipitated or reduced metallic film of silver which can be further coated electrolytically with copper or other metals in any of the usual ways.

If preferred the leaf may be immersed in or brushed over with pure varnish or other medium, and the copper, tin, or the like in a fine state of division dusted on, and in lieu of varnish as above described, collodion, gutta percha, india rubber dissolved in their solvents, or other vehicle for carrying or retaining the metal may be employed.

What we claim is—

The improved process for coating or plating non-metallic articles with metal consisting in first covering said articles with a carrying or holding medium and with metal in a fine state of division and then submitting the article so coated to the action of nitrate of silver, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

THOMAS MORRIS ASH.
HENRY WILLIAM GILL.

Witnesses:
ERNEST HARKER,
J. J. WOODGATE.