

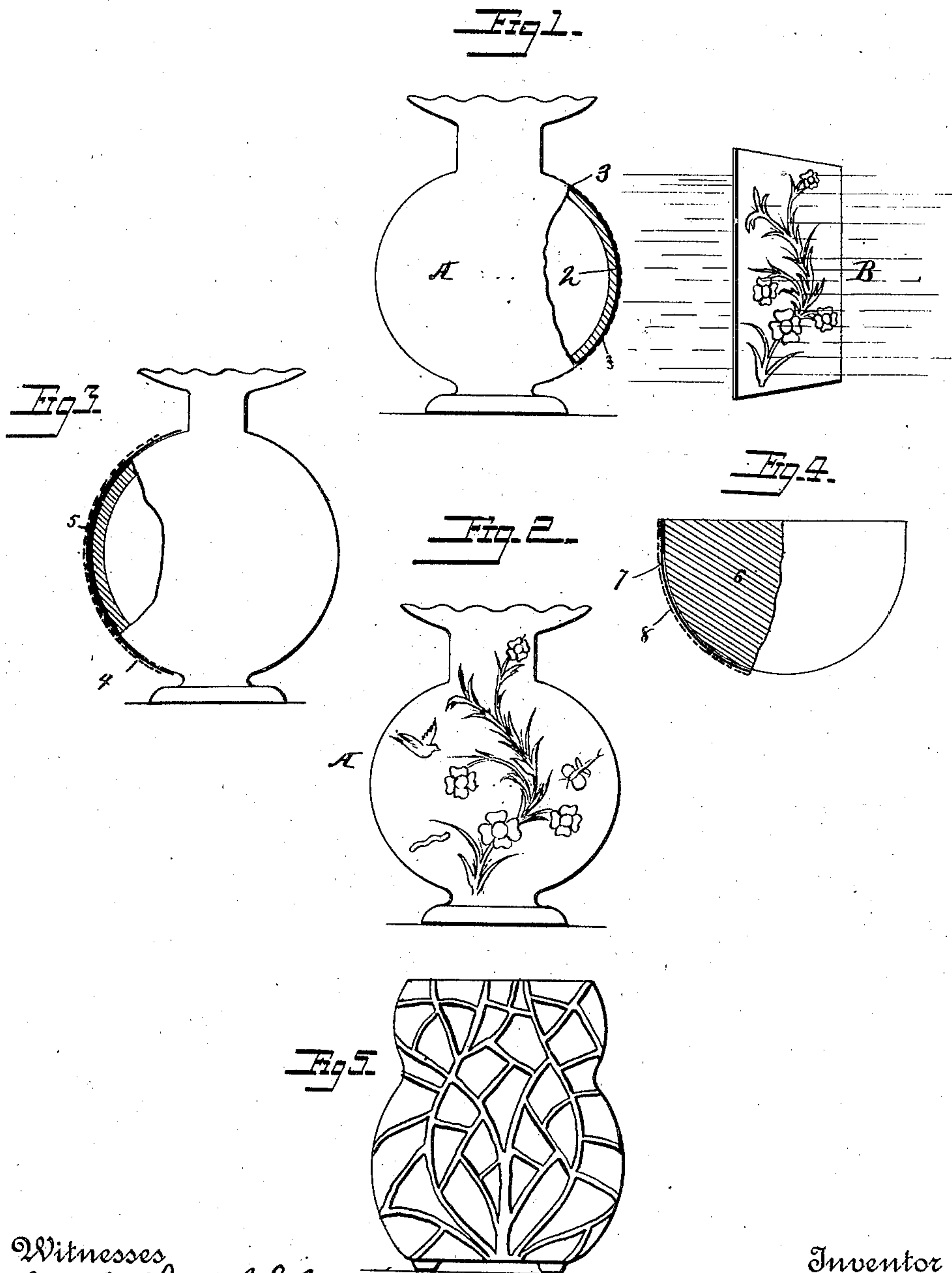
(No Model.)

J. BAYNES.

PROCESS OF ORNAMENTING VASES OR SIMILAR ARTICLES.

No. 468,591.

Patented Feb. 9, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN BAYNES, OF WESTCHESTER, ASSIGNOR OF ONE-FOURTH TO LOCK-  
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## PROCESS OF ORNAMENTING VASES OR SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 468,591, dated February 9, 1892.

Application filed January 8, 1887. Serial-No. 223,783. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BAYNES, a subject of the Queen of Great Britain, residing at Westchester, in the county of Westchester and State of New York, have invented certain new and useful Improvements in the Manufacture of Articles Having Faces Ornamented by Metallic Patterns, of which the following is a specification.

My invention relates to the process of ornamenting vases or similar articles, substantially as hereinafter set forth.

In the drawings, Figure 1 is an elevation of a vase in part section and perspective view of the pattern-plate, illustrating my improvement. Fig. 2 is a side view of a vase ornamented in accordance with my invention. Figs. 3 and 4 illustrate modifications of my process, and Fig. 5 illustrates an article composed entirely of metal produced by my process.

For the purpose of describing my invention I shall refer to the manufacture of ornamental vases; but it will be understood that the invention may be employed in the manufacture of various articles or parts of articles where a metal or alloy capable of being deposited electrically may be employed either for the purpose of forming the body of the article or part thereof or of forming an ornamental facing or partial facing thereto.

If it is desired to use the deposited metal as an overlay upon a vase of pottery or similar material, I first properly prepare the surface of the vase A, so that it will receive a deposit of metal by electricity from a suitable solution by coating it with a base or foundation film of composition, such as wax and plumbago, and I then place it in such solution and apply the deposit in a manner too well known to need description, the said deposit constituting a continuous overlying film 2 of a thickness which may be varied to any desired extent. Upon the surface of film 2 is then applied a coating of any suitable resist sensitive to light, the said coating being indicated by dotted lines 3, Fig. 1 of the drawings, and light is then thrown through a pattern-plate B onto the sensitive face of the coating, thereby rendering such portions as are exposed to the actions of the light-soluble or insoluble, according to the character of the

coating. The soluble portions of the coating are now dissolved, leaving the pattern traced by the insoluble portions, and the article is then immersed in an acid bath, which will etch into or through the electro-deposit film wherever the same may be exposed, after which the article is removed and the resist is scraped or otherwise removed, leaving upon the surface of the article an ornamental pattern of the electro-deposited metal. The resist coating 3 need not in all cases be sensitive to light, as an ordinary acid-resist of asphaltum 4 may be employed in connection with a stencil 5, applied thereto, the exposed portions of the resist being removed by abrasion by means of a brush or by the action of a solvent, as turpentine or naphtha, carried by a brush or sponge. A second coating of a different metal may be applied upon or in any desired position in relation to the pattern formed by the first coating to secure a more elaborate ornamentation of the article. This second pattern is deposited by first coating the article having the first pattern thereon with a film of wax and plumbago, electro-depositing a second base or foundation film of another metal over the entire surface, and then etching through the second film of metal in the same manner as before. If, for instance, the vase A, Fig. 2, be a porous vase, upon which the flower pattern has been deposited of one metal—say silver—the second pattern or ornamentation, representing flying birds or insects, is deposited in like manner in gold or nickel.

While I may use any of the resists and solvents known to those skilled in the art, I have found a resist—such as is described in my Patent No. 282,485, dated August 7, 1883—consisting of, say, ninety parts of asphaltum, eighty parts of oil of turpentine, and ten parts gum-copal, and the parts unaffected by light may be removed by applying a solvent, as turpentine, in any usual manner. The time of exposure to light, of course, will depend upon the composition used, the condition of the light, and the character of the work to be done, and may vary from two hours, more or less.

The body of the article may be made entirely of the electro-deposited metal by first forming a pattern of soluble or friable mate-



rial—as, for instance, plaster-of-paris 6—coat-  
 ing it with plumbago, depositing a heavy film  
 of metal 7—say copper—thereon, then coating  
 the latter with a resist 8, forming the pattern  
 5 on the resist, and etching through the same  
 and completely through the body metal (see  
 Fig. 5) in the same manner as hereinbefore  
 described, the model being then broken or re-  
 moved by a suitable solvent, leaving a hollow  
 10 perforated shell. The first base or founda-  
 tion coating or film of wax and plumbago is  
 also removed by dissolving it in a suitable  
 solution or otherwise, leaving the electro-de-  
 posited coating surrounding the body of the  
 15 vase or other vessel, but independent of it.

It will be evident that my improved method  
 of ornamenting articles may be applied in  
 connection with various metals capable of  
 electro-deposit in the manufacture of various  
 20 different articles or parts of articles, like tiles  
 and similar articles.

Without limiting myself to the precise ma-  
 nipulations herein set forth or to the use of  
 the special materials specified, I claim—

25 1. The process of ornamenting vases or  
 similar articles having ornamental metal pat-  
 terns upon their faces, which consists in first  
 coating the articles with a film of wax and  
 plumbago, then coating the entire face of the  
 30 body portion of the article with a film of the  
 ornamenting metal by electro-deposition, then  
 applying a coating of resist susceptible to the  
 action of the light, then acting upon the re-

sist by rays of light through a pattern-plate,  
 then removing the soluble portions of the re- 35  
 sist and etching through the ornamenting  
 metal at the exposed parts, then removing the  
 resist from the protected parts of the metal,  
 and finally removing the wax and plumbago,  
 substantially as set forth. 40

2. The process of ornamenting vases or  
 similar articles having ornamental metal pat-  
 terns upon their faces, which consists in first  
 applying a base or foundation coating of wax  
 and plumbago to the body of the article, then 45  
 coating the entire face of the body portion of  
 the article with a film of the ornamenting  
 metal by electro-deposition, then applying a  
 coating of resist, subjecting it to the rays of  
 light through a pattern-plate and removing 50  
 the soluble portions thereof, then etching  
 through the ornamenting metal at the exposed  
 parts, then applying a second foundation-coat-  
 ing of wax or plumbago, then applying a  
 second metallic coating of a different metal 55  
 upon said face, and repeating the operations  
 to complete the ornamentation, and finally  
 removing the base-coatings, substantially as  
 set forth.

In testimony whereof I have signed my 60  
 name to this specification in the presence of  
 two subscribing witnesses.

JOHN BAYNES.

Witnesses:

BERNARD J. KELLY,  
 LOCKWOOD DE FOREST.