

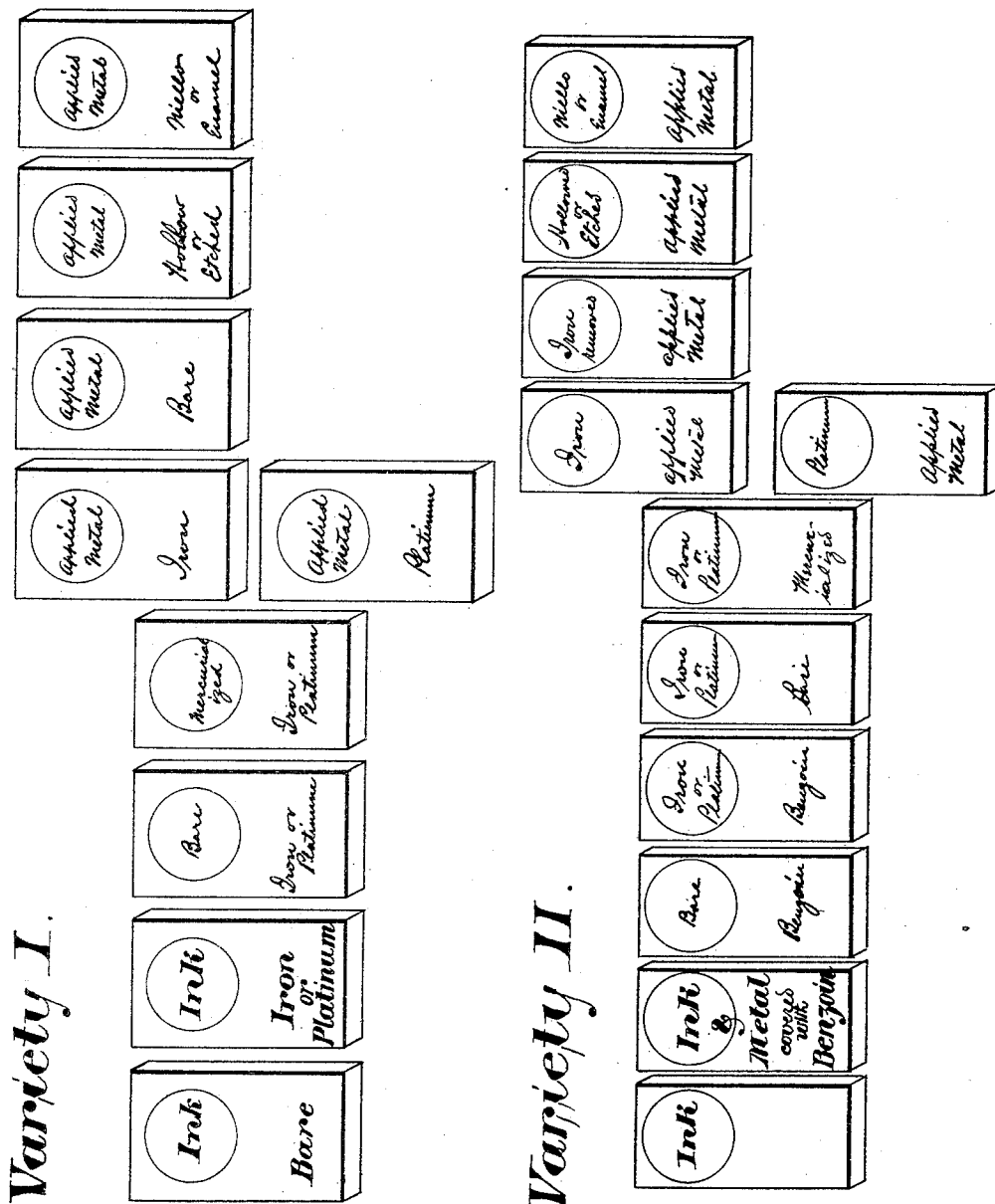
(No Model.)

H. GOODWIN.

PROCESS OF PREPARING PLATES FOR PURPOSES OF UTILITY OR ORNAMENT.

No. 459,137.

Patented Sept. 8, 1891.



Witnesses:

Inventor:

Oscar A. Michel.
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UNITED STATES PATENT OFFICE.

HANNIBAL GOODWIN, OF NEWARK, NEW JERSEY.

PROCESS OF PREPARING PLATES FOR PURPOSES OF UTILITY OR ORNAMENT.

SPECIFICATION forming part of Letters Patent No. 459,137, dated September 8, 1891.

Application filed January 5, 1891. Serial No. 376,694. (No model.)

To all whom it may concern:

Be it known that I, HANNIBAL GOODWIN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Process of Preparing Plates for Purposes of Utility or Ornament; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of processes referred to in a contemporaneous application, Serial No. 184,752, and patented January 20, 1891, under No. 444,951, subsequent to the date of filing hereof, the object being certain specific effects of ornamentation under certain peculiar conditions; and it consists in the process herein described, and embodied in the clauses of the claim.

The accompanying drawing or diagram shows the process in brief, series of plates being illustrated on which films or layers of matter have been successively imposed.

In carrying out the process I provide a suitable metallic plate and impose thereon a picture or design, consisting of fatty ink or of resinous matter—such as asphaltum—or of light hardened albumen or fatty varnish, applied either by the tracing-brush, pen, or by any of the transfer methods or by helio-printing upon sensitized albumen followed by the usual inking and development of the figure. The inky film being thus affixed to the plate, parts of the plate are bare and parts are covered by said ink. The next step varies in accordance with the desires of the artist. If the applied precious metal is to take the place of the ink, then the artist or operator will follow Variety I of the diagram; but if the applied precious metal is to lie in the position of the bare metal then the operations indicated in Variety I will be followed. In the case of Variety I the inked plate is next suspended in an electrolytic solution, and a layer of iron or platinum is deposited on the bare parts, the ink serving as a resist to protect the other parts of the plate. If platinum be the deposit, it may stand as one of the final

coverings of the ornamented plate. After depositing the iron or platinum upon the plate the ink is removed therefrom, any of the well-known solvents of ink being employed for that purpose, thus uncovering the plate, excepting where the deposit of iron or platinum forms the ground of the picture. The bare plate is then mercurialized, or mercury is brought into contact therewith to produce an amalgam, and in this condition a precious metal is applied. This adheres to the mercurialized surface, but not to the surface on which the deposited iron or platinum is fixed. In the case of the plate having the deposit of platinum the application of precious metal preferably forms the final step in the operation. In the case of the plate having iron deposited thereon after applying the precious metal to the amalgamated surface of the plate I prefer to continue the process further by removing the iron which serves as a resist to the mercury by chemical or mechanical means, then hollow out the plate and apply niello or enamel or matter in suitable contrast to the applied precious metal. Where I desire to reverse the positions of the final application, I pursue the course laid down in Variety II of the diagram. After inking the plate I flow over the inked plate a solution of benzoin or equivalent organic matter. Then I dissolve out the underlying ink by means of a solvent which is not a solvent of the benzoin—such, for example, as naphtha—and thus loosen and remove the portion of the film of benzoin which overlies the ink, the figure being thus in bare metal and the ground in benzoin. I then proceed, as in Variety I, to deposit iron or platinum on the bare plate, then remove the remainder of the benzoin and mercurialize the parts of the plate laid bare by such removal, then apply precious metal to the mercurialized surface, thus completing the process if platinum be one of the final applications; but if iron be employed continuing the process, as before, by removing the iron and substituting a more enduring deposit or application in lieu thereof as a final color in contrast to the precious metal. The mercury may be evaporated by heat or be allowed to remain.

Having thus described the invention, what I claim as new is—

1. The process of preparing metal plates for purposes of decoration, ornament, or utility herein described, which consists in applying to the plate an inky or asphaltum or other organic resist, parts of said plate remaining bare, depositing iron or platinum on the bare parts, removing said organic matter and mercurializing the parts previously covered thereby, and applying a precious metal to said mercurialized parts, substantially as set forth.

2. The process herein described, which consists in applying ink to a part of the plate, then flowing the inked plate with benzoin, then removing the ink and its overlying benzoin and depositing metal on the bare parts, then removing the remainder of the benzoin, and applying a precious metal to the parts of the plate covered by the said remainder of benzoin, substantially as set forth.

3. The process herein described, which consists in applying fatty ink to a metal plate or surface, then flowing benzoin over said ink and parts of the plate adjacent thereto, then removing said ink and its overlying benzoin and depositing iron or platinum in lieu there-

of, then removing the remainder of the benzoin and amalgamating the metal which said remainder of benzoin covered, and finally applying precious metal to the amalgamated metal, substantially as set forth.

4. The process herein described, which consists in applying fatty ink to a metal plate or surface, flowing benzoin over said ink and adjacent parts, removing said ink and its overlying benzoin and depositing iron in lieu thereof, then removing the remainder of the benzoin and amalgamating the metal which said remainder of benzoin covered, then applying precious metal to said amalgamated metal, and then removing the iron and applying a matter, such as enamel or niello, in suitable contrast to the precious metal first applied, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of December, 1890.

HANNIBAL GOODWIN.

Witnesses:

CHARLES H. PELL,
OSCAR A. MICHEL.