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PRINTING ON METAL

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4 Claims. (Cl. 41—18)

This invention relates to the printing of letter press and other printed characters, illustrations, maps, diagrams, ornamentations, et cetera (all hereinafter, for convenience of reference, designated "design") in metal on a metal base, generally according to the invention described in my Patent Number 2,086,069 dated July 6, 1937, and the present application is a division of my copending application Serial Number 146,310 filed June 3, 1937, in which a suitable metal is employed as a mask which is resistant to the subsequent electrolytic treatment whereby the platinum metal is deposited, and such metal being completely removed at a later state of the process.

The present invention is essentially characterised in that the said metal is deposited with a finish contrasting with the finish of the metal base, and is not removed at any later stage of the process. Thus, said overlying platinum metal is deposited in a single operation with one finish over the said metal and a contrasting finish over the metal base, in order to meet any circumstance in which a contrast in finish is to be preferred to the contrast in colour effected by the invention according to said prior application for patent.

The present invention provides a method whereby an incorrodible metal is deposited in matt form upon selected portions of the surface of an incorrodible metal base, and this in such manner that the remainder of the surface of the metal base is also covered by the deposited incorrodible metal but in a contrasted finish: thus both the matt metal and the metal of contrasted finish are deposited simultaneously in a continuous unbroken surface.

According to one mode of carrying out my invention, a sheet (the metal base) of, say, gold alloy is taken and an imprint—say of a page of type or a halftone block—is imposed on it by any convenient photo-transfer, lithographic or other process; the sheet is then treated in a plating bath of silver or other suitable metal so that a metallic coating is electrolytically deposited in strongly matt form upon the exposed portion or portions thereof, after which the unexposed portion of the metal base is treated by any suitable known chemical treatment or otherwise, so as to leave the portion of the gold surface beneath it exposed: the sheet is then treated in, say, a platinum plating bath, when platinum is caused to be electrolytically deposited on both the exposed and metal-masked portions thereof. The sheet is now in its finished condition as a gold base bearing the design in matt platinum with a polished platinum background.

According to a modification, by transposition of the early stages of the foregoing procedure, my invention may be carried out in the following manner: A sheet of, say, gold alloy is taken and treated in a plating bath of silver, or other suitable metal, so that a metallic coating is electrolytically deposited in a strongly matt condition over the whole surface of the sheet; then an imprint—such as before described—is imposed on the deposited surface and the silver surface on the sheet is etched down to the gold base, after which the imprint is removed by any suitable known chemical treatment, or otherwise, so as to leave the silver surface beneath it exposed: the sheet is then treated in a platinum plating bath, when platinum is caused to be electrolytically deposited on both the exposed and metal-masked portions thereof. Said sheet is now in its finished condition as a gold base bearing the design in matt platinum with a polished platinum background.

It is, of course, to be understood that the materials employed may cover the background, or, alternatively, the design itself.

What I claim as my invention and desire to secure by Letters Patent is:

1. A process of printing on a non-corrodible sheet metal base which comprises depositing a metal in strong matt form on said base, then forming a mask design upon said matt metal, then etching down said matt metal to said base, then removing the mask, then plating the entire surface with a metal chosen from the platinum group of metals.

2. A process of printing on a gold sheet metal base which comprises depositing silver in strong matt form on said base, then forming a mask design upon the said matt silver, then etching down said matt silver to said base, then removing the mask, then plating the entire surface with a metal chosen from the platinum group of metals.

3. A process of printing on a non-corrodible sheet metal base which comprises depositing a metal in strong matt form on said base, then forming a design of which the background is masked upon said matt metal, then etching down said matt metal to said base, then removing the mask, then plating the entire surface with a metal chosen from the platinum group of metals.

4. A process of printing on a gold sheet metal base which comprises depositing silver in strong matt form on said base, then forming a design of which the background is masked upon said matt metal, then etching down said matt silver to said base, then removing the mask, then plating the entire surface with a metal chosen from the platinum group of metals.

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