

UNITED STATES PATENT OFFICE.

GEORG EPP, OF VIENNA, AUSTRIA-HUNGARY.

PRODUCTION OF PATTERNED METAL FOILS.

SPECIFICATION forming part of Letters Patent No. 634,523, dated October 10, 1899.

Application filed October 20, 1898. Serial No. 694,131. (Specimens.)

To all whom it may concern:

Be it known that I, GEORG EPP, a subject of the Emperor of Austria-Hungary, residing at Vienna, Empire of Austria-Hungary, have invented certain new and useful Improvements in the Production of Patterned Metal Foils, of which the following is a full, clear, and exact description.

The present invention relates to improvements in the production of patterned metal foils of nickel, the said foils being principally employed for advertising-placards and similar purposes and being for this purpose mounted on a suitable backing of paper, linen, leather, or similar material.

In carrying out the process I advantageously employ as matrices plates of German silver, upon one or both surfaces of which the pattern or design, letter, or the like is engraved and upon which plates the metal is precipitated in a coating of the desired thickness. In order to enable the film of metal to be easily separated from or pulled off the engraved plate, the latter must first be provided with a layer of sulphantimonate of sodium before being immersed in the nickel-bath. To apply the said sulphantimonate-of-sodium coating the German-silver plates are immersed in a solution of sulphantimonate of sodium for a few seconds before being subjected to the nickel-bath. The following is a suitable electrolyte for producing or effecting the nickel deposit: A salt of nickel—for instance, nickel nitrate or nickel sulfate or nickel-ammonium sulfate—is dissolved in water in the proportions of one to ten, so that the bath shall show a slightly-acidulated reaction. In order to effect the deposit, the plate is allowed to remain in the bath for the space of two to three minutes with an electric current having a tension of from two to three volts. In order to effect a saving of the nickel, the plates are only allowed to remain in the bath for the above-mentioned short period, the nickel precipitation thus

formed being subsequently strengthened in a copper-bath. The plates may remain in the copper-bath of ordinary ingredients until the film of metal has attained the required thickness, which is about half an hour. The plates are then dried and coated with a suitable adhesive and the backing then applied. When the adhesive has become properly dry, the backing is pulled off the plate and the metal precipitation or film will be firmly secured to the backing.

I claim as my invention—

1. A process for producing metal films or precipitations on a suitable backing said metal films or precipitations being provided with patterns or designs which consists in first providing an engraved German-silver plate with a layer of sulphantimonate of sodium which will enable the film to be readily drawn off the plate, then producing the metallic film or precipitation on the said plate, allowing the same to dry, coating with an adhesive, applying the backing and finally drawing off the plate substantially as described.

2. In the process of producing nickel films on suitable backing the step which consists of applying to the engraved plate of German silver a coating of sulphantimonate of sodium then precipitating the nickel coating on the same in the manner and for the purpose substantially as described.

3. In a process for producing metal films or precipitations on suitable backing the steps which consist in first dipping the German-silver plate in a solution of sulphantimonate of sodium, then applying a thin film of nickel in the nickel-bath and strengthening the same subsequently in a copper-bath in the manner and for the purpose substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GEORG EPP.

Witnesses:

FRANCIS E. GOWLY,
ALVESTO S. HOGUE.