

---

(19)  **Canadian  
Intellectual Property  
Office**

An Agency of  
Industry Canada

**Office de la Propriété  
Intellectuelle  
du Canada**

Un organisme  
d'industrie Canada

---

(11) **CA 249966** (13) **A**

(40) **26.05.1925**

---

(12)

(21) Application number: **249966D**

(51) Int. Cl:

(22) Date of filing: ..

---

(71) Applicant: **CARTER ROBERT W.**

(72) Inventor: **CARTER ROBERT W ().**

---

(54) **PERMANENT PHOTOGRAPH REPRODUCTION ON  
METAL**

(57) **Abstract:**

(54) **REPRODUCTION PHOTOGRAPHIQUE PERMANENTE  
SUR LE METAL**

*This First Page has been artificially created and is not part of the CIPO Official Publication*

249966  
249966

The principal objects of this invention are, to produce permanent photograph reproductions of any desirable object for memorials and art decoration, creating a reproduction which will not fade out through the effect of light.

The principal feature of this process consists in transposing the sensitive material laid upon the plate with an impalpable enamel substance which thus maintains the permanent colour tones.

In carrying this process into effect the photograph to be reproduced is mounted before suitable high power arc lights, the light of which is filtered through a suitable fine screen and colour filters, the screen dividing the light into a minute grain.

The screens and filters are adjusted so as to reproduce the colour contrast and texture of the original photograph. A specially prepared sensitized plate is then subjected to the light through the filters and screen to produce the required negative.

The character of the plate is adapted to suit the requirements for reproducing the particular photograph required.

The metal plate upon which the photograph is reproduced is suitably grained by treatment with mordants to prepare it for the reception of the photograph and to give the desired colour grain.

The plate when so prepared is then finally sprayed with a sensitive solution within an enclosure free from actinic rays of light, this spraying being accomplished at fairly high temperatures.

The sensitive solution consists of ammonia bichromate, potassium bichromate, silver nitrate or other sensitive salts prepared in the desired proportions with suitable emulsions and colloids to act as carriers.

The plate is maintained at a uniform temperature and it is then brought into contact with the specially prepared negative previously described. This composite member is then placed in a suitable vacuum printing equipment and exposed to the action of light and a testing area is arranged in the manner of a print meter and when the necessary colour is reached the light exposure is stopped.

The temperature of the plate is maintained throughout this portion of the process at about 95 degrees and after being printed as above described is removed to a dark room and is sprayed with a solution, the function of which is to lay the ground for an impalpable silicate powder but which will not interfere with the proper development of the plate.

When the plate has been developed it is dusted with a fine powder of silicate enamel and it is then subjected to a high temperature until the proper colour glaze corresponding to the original photograph is obtained.

Under this process the sensitive salts are completely removed and replaced by a metallic or silicate substance which is combined under the action of heat and thus forms a permanent surface which will not be affected by

the actinic rays of light.

The maintenance of the plate under treatment at a temperature approximately 95 degrees is very important as under this temperature the materials are properly amalgamated to bring about their further fusion in the final heating.

4

WHAT I CLAIM AS MY INVENTION IS:-

1. A method of producing permanent photograph reproductions on metal, consisting in developing upon the metal surface a photographic image, then depositing a permanent substance over the image, then fusing the permanent substance to the surface of the metal.

2. A method of producing permanent photograph reproductions on metal, consisting in applying a sensitized material to the metal surface, then developing an image on said material, then applying metallic oxides and a fusible substance to the developed image, then dispersing the sensitized material and fusing the oxides and fusible substance to the surface of the metal.

A

3. A method of producing permanent photograph reproductions on metal, consisting in applying a sensitized material to the metal surface, then subjecting same to light to produce an image, then covering the surface of the sensitized material with an adhesive substance, then developing the image removing portions of the sensitized material, then applying fusible substances in powder form to the adhesive surface, then dissipating the sensitized material and fusing the deposited powder on the metal surface.

4. A method of producing permanent photograph reproductions on metal, consisting in graining a metal plate to receive an impression, then applying a sensitized material to said plate, then placing a negative over the sensitized plate, then exposing same to the

7

action of light, then spraying an adhesive substance over the sensitized material, then developing the sensitized material, and finally heat treating the sensitized plate to remove the sensitized material and fix the fusible material permanently in place.

A

**SUBSTITUTE**

***REMPLACEMENT***

**SECTION is not Present**

***Cette Section est Absente***