

M. R. FREEMAN.

PROCESS OF ENAMELING PHOTOGRAPHS.

No. 190,023.

Patented April 24, 1877.

Fig. 1.

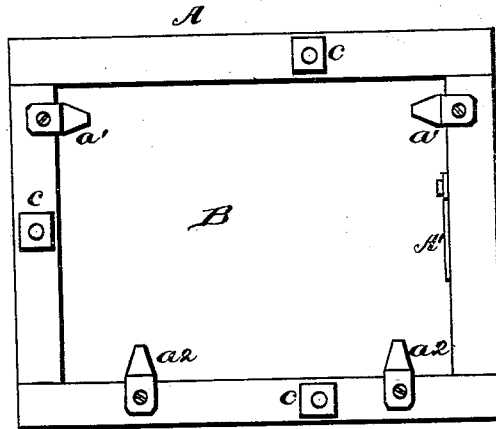


Fig. 2.

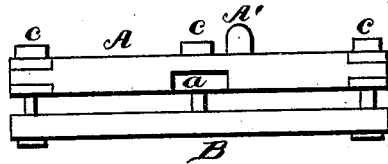
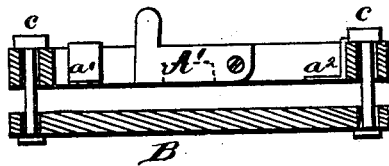


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN THE PROCESSES OF ENAMELING PHOTOGRAPHS.

Specification forming part of Letters Patent No. **190,023**, dated April 24, 1877; application filed March 10, 1877.

*To all whom it may concern:*

Be it known that I, MOODIE R. FREEMAN, of Detroit, in the county of Wayne and State of Michigan, have invented a new and valuable Improvement in Process of Enameling Photographs, Labels, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of the frame used in my process, and Fig. 2 is an end view of the same. Fig. 3 is a transverse vertical sectional view thereof.

This invention consists in a peculiar process for enameling photographs, prints, &c., as hereinafter described, and also in certain devices employed in said process.

In the accompanying drawings, A designates a rectangular frame, and B a bed-board or base-board, to which said frame is clamped by bolts C and nuts c, or other suitable fastenings. Said parts hold the prints, photographs, &c., while the latter are undergoing the enameling process. One end of said frame A is provided at the bottom with an outlet-opening, a, which may be closed or opened at will by a pivoted valve or gate, A'. The ends of said frame are provided with inwardly-extending flat fastening-plates a' near the bottom of said end piece, and one of the sides of said frame (the one which becomes the bottom when said frame is set up on edge,) is provided with similarly arranged plates a<sup>2</sup>.

My enameling process is as follows: Between said bed-board and said frame I place a piece of oiled silk or any other substance that can be used as a film. Upon this I paste the print or other article to be enameled, said print being arranged with its face upward. After securing the base-board B firmly to frame A, I pour a composition of gelatine into said frame, (the outlet a being closed,) until the said composition rises to the upper face of fastening-plates or rests a<sup>1</sup> a<sup>2</sup>. I then place one edge of a plate of glass (which has been

previously cleaned, dried, and coated with a certain solution hereinafter described) under the two rests or fastening-plates a<sup>2</sup>, and lower said plate gradually until two of its other edges pass behind the two other rests or fastening-plates a<sup>1</sup>. This movement wholly expels the air from under the glass plate, and thus prevents air-bubbles from forming on the print or other article to be enameled. After this is properly set, as described, I open valve A' and allow the gelatine solution to pass off, except such as is held by capillary attraction between the glass and the print. I then unscrew the bolts or clamps, turn over the frame A and remove the base-board B. I then remove the oiled silk, leaving the print upon the gelatine, facing the glass. When properly dried the glass is removed, leaving the print or other article finely enameled.

The solution used in flowing the glass plate and forming the enamel surface is compounded as follows, to wit: Sulphuric ether, ten ounces; alcohol, six ounces; positive gun-cotton, one hundred grains; saturated solution gum-mastic, forty eight drops; saturated solution gum-sandarach, forty drops; saturated solution gum-elemi, eighty drops; saturated solution gum-shellac, sixty drops; Venice turpentine and alcohol, equal parts, one hundred and twenty drops; oil lavender flowers, one hundred and sixty drops.

The solutions of mastic, sandarach, and elemi are made in alcohol. The object of the gums is to obtain hardness, durability, flexibility, and gloss.

The oil of lavender is used to temper the solution and prevent chilling on the plate while drying. The compound or solution is susceptible of a wide field of variation, and the gummy substances of the same nature will produce the same results.

What I claim as new, and desire to secure by Letters Patent, is—

1. The process of enameling photographs, consisting in flooding the picture with a gelatine solution, while firmly held in a frame, then in pressing upon it a plate of glass, coated as described, so as to expel the air from between their faces, then in drawing off the surplus gelatine, and finally in leaving

the said devices to dry, substantially as and for the purpose set forth.

2. Frame A, provided with outlet *a*, valve or gate A', rests or fastening-plates *a*<sup>1</sup> *a*<sup>2</sup>, base-board B, and suitable clamping devices, substantially as and for the purpose set forth.

In testimony that I claim the above I have

hereunto subscribed my name in the presence of two witnesses.

MOODIE R. FREEMAN.

Witnesses:

JOHN B. CORLISS,

J. FRED. ACKER, Jr.