

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN THE PROCESSES OF COLORING PHOTOGRAPHS.

Specification forming part of Letters Patent No. **194,472**, dated August 21, 1877; application filed May 25, 1877.

*To all whom it may concern:*

Be it known that I, JOSEPH A. SCHULTZ, of Batavia, in the county of Genesee and State of New York, have invented a certain new and Improved Process of Finishing Photograph-Pictures in Oil-Colors; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my improvement is to finish photographs in oil-colors, to do which it is necessary to treat the same to neutralize the chemical salts.

The invention consists in the process hereinafter more fully set forth.

The photographic positive is first pasted or glued upon a skeleton frame in the form of a very shallow box, open both in the front and rear, so as to leave both sides of the photograph uncovered. When so applied the albumen or prepared side stands outward. When the paper is dry, so as to be perfectly stretched, the box is inverted and the albumen side of the photograph is laid flatwise in direct contact with a plate of zinc. A preparation consisting of twenty (20) parts of an animal oil and one (1) part of acetic acid is now poured into the box, so as to cover the back side of the paper. This operation will have this effect, viz., it will reduce the chemical salts which remain in the texture of the paper, and also make the latter clear and transparent. This operation of neutralization will usually take from four to six hours.

When this operation is completed the box is removed from the zinc plate and the oil is poured out, and its place is supplied by a wash consisting of one (1) part of spirits of turpentine and one (1) part of benzine or naphtha, to wash out the oil and the metallic salts which remain in reduced particles on the surface of the paper. It is to be worked both outside and inside. The photograph is now perfectly transparent. The wash is very volatile, and leaves the photograph in condition for immediate manipulation with the colors.

While the photograph is still attached to the frame a heavy coloring of oil-tint is spread over the whole surface on the back side within the frame. This may be of any color, but preferably flesh tint. After this, and while the picture is still attached to the frame, I apply a backing to the picture, consisting of picture-canvas, picture-board, card-board, or other suitable material, which is placed in di-

rect contact with the paint. This completes the process, with the exception of touching up the right side of the picture with live colors, applied thin to produce the desired tinting. After this the picture is cut from the frame or box, and is then ready for framing or mounting in the ordinary manner.

All photographs contain more or less of metallic salts, which sooner or later change their color, and cause them to dim, fade away, and become expressionless.

By the process before described the metallic salts are neutralized, leaving the photograph in condition to receive the oil-colors, and the picture will become as solid and enduring as an oil-painting. It is impervious to water, is not affected by light, and can be washed without trouble.

The facility and ease of production and the great cheapness with which they can be made render the process of much importance.

Having thus described my invention, I claim—

1. As a step in the process of preparing photographs to receive oil-colors, attaching the photograph to an open frame or box, and the application upon the back side of the photograph of a solution of animal oil and acetic acid, for the purpose of neutralizing the chemical salts, as herein described.

2. As a step in the process of preparing photographs to receive oil-colors, the employment of a bath of spirits of turpentine and benzine, for the purpose of removing the oil and metallic particles after the treatment by animal oil and acid, as herein described.

3. The process of finishing photographs in oil-colors, which consists in first treating the positive to a bath consisting of animal oil and acetic acid, to neutralize the chemical salts, then subjecting the same to a bath of spirits of turpentine and benzine, to remove the oil and metallic particles, and, finally, coating the same on the back side by an oil-color, and tinting on the front side, in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOS. A. SCHULTZ.

Witnesses:

R. F. OSGOOD,  
ALBERT WEBER.