

UNITED STATES PATENT OFFICE.

CLAUDE L. LAMBERT, OF PARIS, FRANCE.

IMPROVEMENT IN METHODS OF RETOUCHING PHOTOGRAPHIC NEGATIVES.

Specification forming part of Letters Patent No. **153,577**, dated July 28, 1874; application filed June 30, 1874.

To all whom it may concern:

Be it known that I, CLAUDE LÉON LAMBERT, of Paris, France, have invented an Improved Method of Retouching Photographic Negatives and Positives; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a method of improving or retouching photographic negatives, whether such are taken from nature, or are enlarged reproductions, whereby all retouching of the positive proof on paper is rendered unnecessary.

In all processes of the kind heretofore practiced, it has been usual to operate either on the positive-paper print or on the varnished film of collodion constituting the negative from which the positive proofs are obtained. This method is tedious and expensive, especially when operating on a picture reproduced and considerably enlarged, and more particularly in the case of portraits, in which the grain of the paper becomes coarser the greater the enlargement. Moreover, it can only be performed by experienced artists, whereas, by the improved method of this invention, this treatment is considerably simplified. The following is a description of the improved process:

The negative of large dimensions is first obtained by salts of silver, or carbon and salts of chromium, in the ordinary manner now in use. If an enlargement, this may be obtained directly from a small positive-paper picture, or from a positive proof by transparency, (*i. e.*, to be apparent through a glass, and not by reflection,) obtained from the small negative either with salts of silver, or, which is preferable, with salts of chromium especially prepared for the purpose.

The large negative may be produced in an ordinary camera of large dimensions; but I prefer the dark room for the purpose, as it permits of overlooking the picture and making any modifications deemed desirable, as will hereinafter appear.

The large negative, after having been properly exposed, developed, fixed, and finished,

is covered on both sides with a sheet of thin paper specially prepared for the purpose, or any other semi-transparent material capable of retaining the coloring matter to be afterward employed. I, however, prefer this special prepared paper of a particular grain, because, when placed on either side of the negative, it has the effect of neutralizing, by its optical combination, the defects due to the material of which it is composed, and which, separately, exhibits an exceedingly coarse grain. This novel application alone will, in a great measure, attenuate the grain, which is always apparent in photographic reproductions from pictures on paper.

It is by acting on these two surfaces covering and inclosing the negative that the picture printed from the latter may be improved or retouched in an extremely simple and easy manner, which consists in applying wherever necessary, either on the collodion side or on the reverse side, an impalpable galvanoplastic powder, or other finely-pulverized substance answering the same purpose. This powder is most conveniently applied with a stump. By this means, a negative wanting in vigor or harmony may, in a few moments, be strengthened and have imparted to it all the softness and the effect of most carefully-stumped drawing. Moreover, the effects of light and shade may be modified, toned, or heightened, and such a high degree of finish imparted as will render any subsequent retouching of the positive-paper print unnecessary, the sharpness of the lines being restored by the aid of a lead-pencil. This treatment may be performed in a few minutes, even for very large surfaces, and by persons completely inexperienced in the art of retouching pictures.

The negative, after thus being treated, is placed in the pressure-frame with a sheet of ordinary sensitized paper, prepared either with salts of silver or of chromium, to obtain a perfect positive.

Should the lines of the negative be too sharp or well-defined, more especially in the case of large pictures, they may be softened in the positive proof by first partially print-

ing it, say three-fourths of the time, in contact with the large negative, and then completing the impression after having interposed a sheet of very thin glass between the negative and the paper; or a sheet of any other thin transparent material may be substituted for the glass.

The complete or partial transformation of the backgrounds, as well as of draperies, hair, dress, or any part requiring to be modified, may be readily obtained in the following manner: On the positive image, obtained as previously described, is applied a sheet of extra thin glass, on which the outline of the subject is traced at a distance of, say, one-twenty-fifth of an inch from the true outlines to be protected from the action of light. On the mask cut out of yellow paper is then placed another glass of the same dimensions, on which the outlines are similarly traced, but in this case about one-twelfth of an inch within. In this manner, the optical effect, or the effect of light on an opaque shadow-forming point, is obtained without showing the lines of de-

markation, and the background may be toned to harmonize with the subject.

A plain or graduated background may, by the same means, be replaced by any other subject, such as a landscape, interior or other adjunct, and vice versa.

The process herein described may be applied to positives, by transparency, of all dimensions, which, after being thus treated, will serve for the reproduction of negatives requiring no further retouching.

I claim—

The process herein described of retouching photographic negatives and positives to print from, consisting essentially of the application of a translucent sheet on each side of a negative or positive, previously rendered transparent, and applying to the surfaces thereof an impalpable powder, substantially in the manner and for the purpose set forth.

CLAUDE LÉON LAMBERT.

Witnesses:

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