

UNITED STATES PATENT OFFICE.

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PREPARATION OF PHOTOGRAPHIC PAPER FOR MAKING GELATINE BROMIDE OF SILVER PRINTS.

SPECIFICATION forming part of Letters Patent No. 253,827, dated February 14, 1882.

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To all whom it may concern:

Be it known that we, JEAN JOSEPH DÉSIRÉ HUTINET and PIERRE ERNEST LAMY, both of Paris, in the Republic of France, have invented a new and useful Improvement in the Preparation of Photographic Paper for Making Gelatine Bromide of Silver Prints, of which improvement the following specification is a full description.

10 This invention relates to the preparation of paper with gelatine or other gummy or albuminous matter which is insoluble or is rendered insoluble in cold water and with bromide of silver or other silver precipitate insoluble in
15 water, and has for its object so to prepare the paper that brilliant prints or positive proofs are at once obtained. The plan heretofore adopted has been to apply directly upon the paper a sensitive layer composed of gelatine
20 and a chloride, iodide, or bromide of silver, or other insoluble silver precipitate or mixture of such precipitates, and, after exposing the paper thus prepared under a negative to natural or
25 artificial light to develop the image, with alkali, with oxalate of iron, or with pyrogallie acid. Such prints are, however, pale, dull, and disagreeable, and to render them acceptable it is necessary, after development, to cover them
30 with encaustic albumen, collodion, or varnish. This last operation adds greatly to the labor, and interferes with the general employment and consequently with the manufacture and sale of the paper prepared with gelatine and the bromide or similar compound of silver.
35 With paper prepared in accordance with this invention images as brilliant as, or, if desired, more brilliant than, those produced by chloride of silver with paper once or twice albumenized are obtained after exposure and development
40 at once and without further treatment.

The invention consists in applying as well the varnish or composition for imparting brilliancy as the gelatine-bromide compound in the preparation of the paper, so that the pellicle
45 containing the gelatine-bromide compound is itself rendered brilliant. The paper may be calendered or not, as deemed necessary or desirable.

50 The following are illustrations of a number of ways in which the invention is or may be carried into effect.

First method.—The paper is covered with a

layer of gelatine or other permeable or impermeable gummy or albuminous substance containing baryta white or other white, wax-soap, 55 or a solution of white gum-lac. After drying it is calendered and made to shine by the aid of a brush or pad, with or without talc. It is then covered with a sensitive layer of gelatine and bromide or other suitable compound of 60 silver in any ordinary or suitable way. The bromide is preferred over other silver compounds on account of its great sensitiveness.

Second method.—The paper is covered with a solution of resin or gum-resin in alcohol, an 65 essence, an alkaline or saline solution, or other suitable solvent. After drying it is calendered, and it is then covered with the sensitive layer of gelatine-bromide of silver.

Third method.—The paper is covered with a 70 varnish of collodion, and is then, with or without calendering, coated with the sensitive layer of gelatine-bromide of silver.

Fourth method.—The paper is coated with the sensitive layer of gelatine and bromide of silver, and then, after drying and before printing, is covered by means of a brush, a bath, or a mechanical roller with the solution of a white 75 resin or gum-resin in alcohol, essence, alkaline or saline solution, or other solvent. Prepared 80 in this way the layer for imparting brilliancy to the print is hard and insoluble.

Fifth method.—The solution of resin or gum-resin is mixed with the sensitizing composition of gelatine and bromide of silver, and the paper 85 is covered with the mixture.

Sixth method.—The paper is prepared as in the fifth method, and after drying is coated with the solution of resin or gum-resin by itself. A hard, insoluble, and brilliant surface 90 is thus produced.

In order that the surface of the paper prepared as described may not be liable to become cracked a proportion of glycerine or of sugar is introduced into the preparations, or the solution 95 for imparting brilliancy is made with various kinds of resins.

Whatever be the mode by which the paper is prepared, the development of the image after exposure under the negative is or may be made 100 in the ordinary way, either by the upper surface, on which the layer or layers are applied, by the under surface, or by both surfaces simultaneously. After this development and after

washing, treating with a gold solution or toning-bath, washing, and drying, an image is obtained which is brilliant, very brilliant, or extra brilliant, according to the method employed and the proportion of resin incorporated in the solution used.

Having now fully explained our invention and the manner of carrying the same into effect, what we claim is—

10 1. The method of preparing photographic paper with gelatine-bromide of silver or analogous sensitive compound for positive printing, which consists in applying, in connection with said compound, a varnish for imparting
15 brilliancy, and thus rendering brilliant the sensitive pellicle itself, so that varnishing after the printing operation is rendered unnecessary, substantially as described.

2. Photographic paper prepared for positive printing with a sensitive pellicle of gelatine- 20
bromide of silver or analogous compound, combined with a varnish for imparting brilliancy, substantially as described.

3. Photographic paper prepared for positive printing with a sensitive pellicle of gelatine- 25
bromide of silver or analogous compound, combined with a varnish for imparting brilliancy, and calendered, substantially as described.

In witness whereof we have hereunto signed our names in the presence of two subscribing 30
witnesses.

JEAN JOSEPH DÉSIRÉ HUTINET.
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Witnesses:

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