

UNITED STATES PATENT OFFICE.

EDWARD ALBERT CUNNINGHAM, OF AMBRIDGE, PENNSYLVANIA.

METHOD OF TREATING PHOTOGRAPHIC PAPER.

No. 917,418.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed December 11, 1908. Serial No. 467,008.

To all whom it may concern:

Be it known that I, EDWARD ALBERT CUNNINGHAM, of Ambridge, in the county of Beaver and State of Pennsylvania, have invented a new and useful Method of Treating Photographic Paper, of which the following is a specification.

My invention relates to photographic paper, and has for its object the treatment of photographic paper, to restore a print which has been treated by the process described in U. S. Letters Patent No. 895,970, or a process similar thereto, to its original state.

My treatment is especially adapted for the treatment of paper used in what is known as the "blue-printing" process, since by its application I am enabled to remove the deposit of metallic salts deposited on the original print, and restore it from a non-actinic to its original actinic blue color.

In carrying out my invention, I treat the print with a solution or solutions of one of the alkalies preferably of ammonia, which removes the metal deposited by the process covered by Patent No. 895,970 and changes the ferrous salts to an oxid. The print is then washed and transferred to a solution or solutions of one of the cyanids, preferably potassium ferrocyanid acidified with one of the acids preferably hydrochloric acid, which changes the ferric oxid to ferric chlorid, this is then immediately precipitated by the cyanid as ferrous ferrocyanid (Prussian blue). The print is then treated with a solution or solutions of a salt of one of the metals which easily gives up oxygen, preferably potassium bichromate. The print is then washed and dried in the usual manner.

I claim:—

1. The herein described method of treating photographic prints, which consists in subjecting them to the action of an alkaline solution to thereby change the ferrous salts therein to an oxid, then further treating the prints to convert the oxid and cause the precipitation of ferrous ferrocyanid, and then oxidizing; substantially as described.

2. The herein described method of treating photographic prints, which consists in

first converting the ferrous salts therein to form oxid, then treating with a cyanid solution containing hydrochloric acid to convert the ferric oxid to ferric chlorid, and precipitating the same as ferrous ferro-cyanid, and then oxidizing; substantially as described.

3. The herein described method of treating photographic prints, which consists in first converting the ferrous salts therein to ferric oxid, then treating with a cyanid solution containing hydrochloric acid to convert the ferric oxid to ferric chlorid and precipitating the same as ferrous ferro-cyanid, and then treating with a solution of potassium bichromate; substantially as described.

4. The herein described method of treating photographic prints, which consists in treating the prints with an alkali solution to convert the ferrous salts of the prints into ferric oxid, then subjecting the prints to an acidified cyanid solution, and finally treating them with an oxidizing solution; substantially as described.

5. The herein described method of treating photographic prints, which consists in converting the ferrous salts therein into ferric oxid, by the action of an alkali, then treating with a cyanid solution containing hydrochloric acid to convert the ferric oxid into ferric chlorid, and precipitating the same as ferrous ferro-cyanid, and then treating with an oxidizing solution; substantially as described.

6. The herein described method of treating photographic prints, which consists in treating with an ammonia solution to convert the ferrous salts of the prints to ferric oxid, then washing and treating with a solution of potassium ferro-cyanid containing hydrochloric acid, and finally treating with a solution of a salt of one of the metals which easily gives up oxygen; substantially as described.

In testimony whereof, I have hereunto set my hand.

EDWARD ALBERT CUNNINGHAM.

Witnesses:

LEE C. JONES,
E. M. KEELY, Sr.