

# UNITED STATES PATENT OFFICE.

ARTHUR EICHENGRÜN AND KARL DEMELER, OF ELBERFELD, GERMANY,  
ASSIGNORS TO FARBENFABRIKEN OF ELBERFELD CO., OF NEW YORK,  
N. Y., A CORPORATION OF NEW YORK.

## PHOTOGRAPHIC DEVELOPER.

SPECIFICATION forming part of Letters Patent No. 703,241, dated June 24, 1902.

Application filed July 17, 1901. Serial No. 68,674. (No specimens.)

*To all whom it may concern:*

Be it known that we, ARTHUR EICHENGRÜN and KARL DEMELER, doctors of philosophy, chemists, residing at Elberfeld, Germany, (assignors to the FARBENFABRIKEN OF ELBERFELD CO., of New York,) have invented a new and useful Improvement in Photographic Developers; and we hereby declare the following to be a clear and exact description of our invention.

We have found that the products of addition from polyhydroxyl derivatives of aromatic compounds and aliphatic or cyclic nitrogen bases are especially adapted for developing photographic pictures on glass, celluloid, paper, &c., prepared with silver-chlorid, bromid, or iodid or with two or all of these salts after proper exposure to light. The products discovered by us develop such photographic pictures without the addition of an alkali, and in this way they are superior to the developers hitherto employed. They are also superior to the old developers inasmuch as the pictures produced by the new developers show extraordinary brilliancy, great detail, and strong contrast, and possess a color which insures rapid printing. Another special advantage of our new developers is that plates, &c., can be left in the developing-baths for any reasonable length of time and no fear of fog need be entertained. Again, the new products have the remarkable property that the energy of the developing-bath can be increased to any degree by the addition of caustic alkalies or alkali carbonates, so that a developing liquid which is too weak for an under-exposed plate may be raised to the desired strength by the addition of a few drops of a solution of potassium carbonate.

The following is an example of preparing the developing-bath: Eight grams of sodium sulfite are dissolved in one hundred cubic centimeters of water, and into the cold solution one gram of finely-powdered pyrogalloldimethylamin is introduced. The liquid is shaken in a well-closed bottle until completely dissolved and is then ready for use.

Since the formation of the addition product from pyrogallic acid and the nitrogen base takes place in watery solutions, the developing liquid may also be prepared by dissolving the two components of the developer—for example, pyrogallic acid and dimethylamin—in the necessary quantity of water either together or separately.

Having thus described our invention and in what manner the same is to be performed, what we claim as new, and desire to secure by Letters Patent, is—

1. The herein-described developing agent for photographic pictures containing a solution of a product of addition from polyhydroxyl derivatives of aromatic compounds with nitrogen bases, substantially as described.

2. The herein-described developer for photographic pictures consisting of an aqueous solution of pyrogalloldimethylamin to which an aqueous solution of sodium sulfite has been added, substantially as described.

In testimony whereof we have signed our names in the presence of two subscribing witnesses.

ARTHUR EICHENGRÜN.  
KARL DEMELER.

Witnesses:

J. A. RITTERSHAUS,  
J. SCHADDEJI.

It is hereby certified that in Letters Patent No. 703,241, granted June 24, 1902, upon the application of Arthur Eichengrün and Karl Demeler, of Elberfeld, Germany, for an improvement in "Photographic Developers," an error appears in the printed specification requiring correction, as follows: In line 16, after the word "silver" the comma should be stricken out; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 8th day of July, A. D., 1902.

[SEAL.]

F. I. ALLEN,  
*Commissioner of Patents.*