

UNITED STATES PATENT OFFICE.

ALFRED BOGISCH, OF FEUERBACH, GERMANY, ASSIGNOR TO THE FIRM OF
J. HAUFF, OF SAME PLACE.

PHOTOGRAPHIC DEVELOPER.

SPECIFICATION forming part of Letters Patent No. 608,147, dated July 26, 1898.

Application filed December 24, 1896. Serial No. 616,923. (No specimens.) Patented in England December 7, 1896, No. 29,931;
in France December 7, 1896, No. 261,967, and in Germany March 30, 1897, No. 97,596.

To all whom it may concern:

Be it known that I, ALFRED BOGISCH, a citizen of Germany, residing at Feuerbach, near Stuttgart, Germany, have invented certain new and useful Improvements in Photographic Developers, (for which patents have been granted in Germany, No. 97,596, dated March 30, 1897; in England, No. 29,931, dated December 7, 1896, and in France, No. 261,967, dated December 7, 1896,) of which the following is a specification.

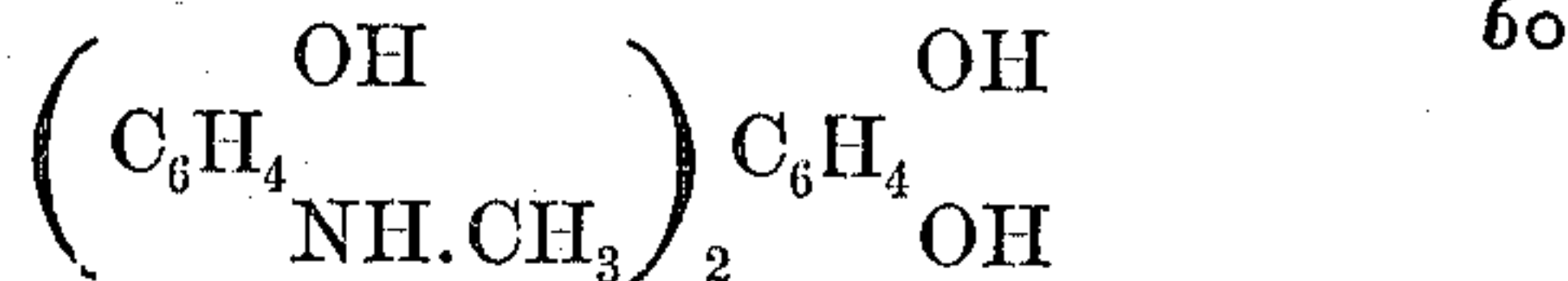
In experimenting upon the developing power of orthoamidophenols which are alkylized or carboxyalkylized in the amido group (methylorthoamidophenol and orthoxyphenylglycin) I found that they are liable to get oxidized by repeated use, so as to impart a yellow color to the gelatin film of photographic negatives. This objection is entirely obviated by the addition to a solution of mono or carboxy alkylized orthoamidophenol of hydroquinone or pyrocatechin in the proportion of one molecule of the latter to two molecules of the substituted orthoamidophenols, for the reason that they form chemical combinations which, like the plain or alkylized amidobenzols and paramidophenols, produce a different physical result from that obtained by their components.

Developing solutions prepared in the proportion stated possess considerable permanency and do not discolor the gelatin film in the least, even when used repeatedly and for a considerable length of time. The special advantage, however, of these solutions consists in the fact that as contradistinguished from the recently-discovered rapid developers—such as metol, amidol, &c.—they develop the photographic image somewhat slower, though with an equally-satisfactory result, and that they are very sensitive to potassium bromid. The color of the precipitate obtained is grayish black. When methylorthoamidophenol is employed, the developing solution is prepared in the following proportions: water, one thousand grams; methylorthoamidophenol sulfate, three hundred and seventy-five grams; hydroquinone, 1.25 grams; sodium sulfite, fifty grams; calcined potassium, fifteen grams.

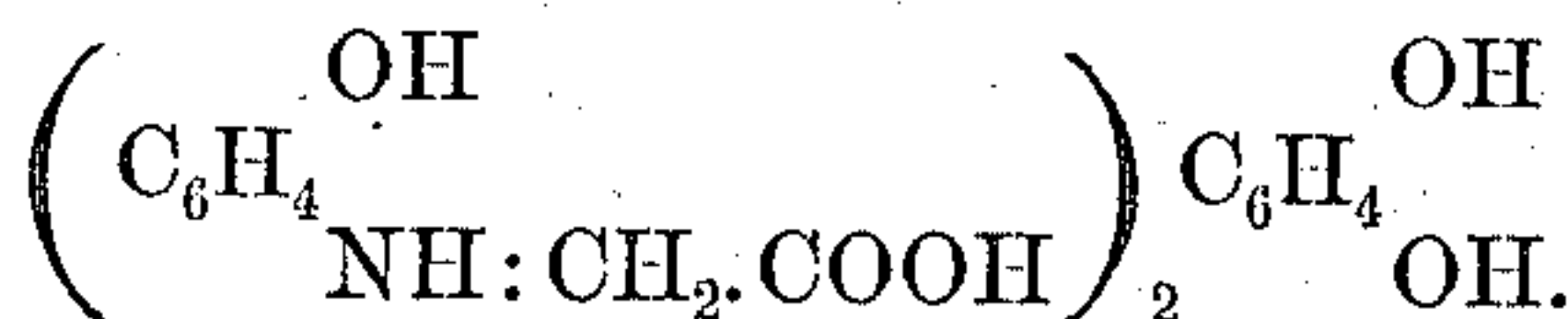
When orthoxyphenylglycin is employed, the developing solution is prepared in the

following proportions: water, one thousand grams; orthoxyphenylglycin, 7.70 grams; hydroquinone, 2.30 grams; sodium sulfite, one hundred grams; potassium carbonate, fifty grams.

The constitutional formula of methylorthoamidophenol-hydroquinone is



and the constitutional formula of orthoxyphenylglycin-hydroquinone is



These developers develop the latent picture moderately quick and impart to the film of the photographic negatives, like pyrogallie acid, a fine grain and form a silver precipitate of grayish-black color. The developing solutions possess great permanency and great developing power. They can also be used by mixing them with other rapid developers heretofore used.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The process herein described of developing photographic negatives, which consists in subjecting them to the action of an alkaline solution of a substituted orthoamidophenol and hydroquinone, substantially as set forth.

2. The process herein described of developing photographic negatives, which consists in subjecting them to the action of an alkaline solution of a molecular combination of mono or carboxy alkylized orthoamidophenol and hydroquinone, substantially as set forth.

3. A developing solution for photographic negatives, composed of an alkaline, aqueous solution of a mono or carboxy alkylized orthoamidophenol, and hydroquinone, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ALFRED BOGISCH.

Witnesses:

PAUL DRESCHER,
ERNST DIETRICH.