

# UNITED STATES PATENT OFFICE.

MOMME ANDRESEN, OF BERLIN, GERMANY.

## PHOTOGRAPHIC DEVELOPER.

SPECIFICATION forming part of Letters Patent No. 477,486, dated June 21, 1892.

Application filed October 12, 1891. Serial No. 408,484. No specimens.) Patented in Germany January 27, 1891, No. 60,174; in England January 30, 1891, No. 1,736, and in France February 7, 1891, No. 211,243.

To all whom it may concern:

Be it known that I, MOMME ANDRESEN, of Berlin, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Developers for Photographic Pictures, (for which patents have been obtained in France, No. 211,243, dated February 7, 1891; in England, No. 1,736, dated January 30, 1891, and in Germany, No. 60,174, dated January 27, 1891;) and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the development of photographic pictures by means of paramido-phenol or its chlorine, bromine, iodine oxy, amido, and methyl derivatives or the carbonic and sulphonic acids of paramido-phenol.

Now, I have found by experiment that the substances mentioned above are exceptionally suitable for developing photographic pictures, excelling the developing substances hitherto known by effecting an exceedingly rapid and energetic development, and consequently these substances are especially applicable for developing plates after short exposures. The negatives obtained are clear and well detailed and have a bluish-black color, which insures rapid printing. There can be prepared with the new developers two series of developing solutions, which contain the paramido phenol or its equivalents either in the form of the free base or as an alkali salt.

The following are examples of the preparation of these solutions:

*Example I.*—Dissolve water, one thousand parts; hydrochloride of paramido-phenol, five

parts; sulphite of soda, (crystal,) fifty parts; carbonate of potash, twenty-five parts.

*Example II.*—Dissolve in one hundred parts of boiling water thirty parts of meta-bisulphite of potash and hereupon ten parts hydrochloride of paramido-phenol. To this solution slowly add while stirring concentrated caustic soda until the precipitated paramido-phenol has just been redissolved. For practical use the solution of the paramido-phenolnatrium obtained has to be weakened by adding five to fifty parts water, according to whether a strong or weak developer be required. On immersing a photographic plate in the solutions prepared in the aforesaid manner the picture becomes completely developed and can afterward be fixed in the usual way. The above proportions may, however, be varied. For the meta-bisulphite of potash may be substituted bisulphite of soda or sulphite of soda and for the carbonate of potash carbonate of soda or lithium.

I claim—

1. The herein-described mode of developing photographs, which consists in treating the sensitive plates with paramido-phenol or a derivative thereof, substantially as described.

2. The mode of developing photographs, which consists in forming a solution of paramido-phenol, a sulphite of potash, as described, and carbonate of potash, and treating the sensitive plate with such solution, substantially as described.

In testimony whereof I hereunto set my hand and affix my seal in the presence of two witnesses.

MOMME ANDRESEN. [L. S.]

Witnesses:

THEODOR DIEHL,  
GUSTAV LUCHT.