

UNITED STATES PATENT OFFICE.

AUGUSTE LUMIÈRE AND LOUIS LUMIÈRE, OF LYON-MONPLAISIR, FRANCE.

PHOTOGRAPHIC PAPER.

No. 853,643.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed May 15, 1906. Serial No. 317,028.

To all whom it may concern:

Be it known that we, AUGUSTE LUMIÈRE and LOUIS LUMIÈRE, citizens of France, residing at Lyon-Monplaisir, France, have invented new and useful Improvements in Photographic Papers, of which the following is a specification:

The invention has for its object the preparation of silver salt photographic papers containing an excess of soluble silver salt and capable of development by simple immersion in water.

It is known that silver salt photographic papers containing an excess of soluble silver salt, such as papers prepared with citrate of silver, can be slightly impressioned and then treated with a developer, such as hydroquinone, gallic acid, or other developing substance, in acid solution for example, which, by acting upon the excess of soluble silver salts of the paper, produces reduced silver which gradually fixes on the image the impression of which has been commenced by the action of light.

Hitherto it has not been possible to introduce directly the developing substance into the emulsion used in the preparation of photographic papers in order to permit of the development of the image by simple immersion in water; the addition of a developing substance to the emulsion promotes in fact, at the end of a very short time, the reduction of the soluble silver salt. In carrying the in-

vention into effect this inconvenience is remedied by the addition of sulfurous acid either to the emulsion or to the developing substance which is added to it.

The following is an example of how one can proceed in the latter case by employing gallic acid.

Make a twenty per cent alcoholic solution of gallic acid and introduce into it ten cubic centimeters of liquid sulfurous acid for every one hundred cubic centimeters of solution. Add in the dark fifty cubic centimeters of this solution to every one hundred cubic centimeters of citrate emulsion. The emulsion thus obtained can be readily prepared and spread without incurring any darkening.

The above mentioned quantities can be modified within large proportions and they have only been cited by way of example.

What we claim as our invention and desire to secure by Letters Patent, is:—

The herein described article consisting of an emulsion containing an excess of soluble silver salt, a developer and sulfurous acid.

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

AUGUSTE LUMIÈRE.
LOUIS LUMIÈRE.

Witnesses:

GASTON JEAUNIAUX,
MARIN VACHON.