

UNITED STATES PATENT OFFICE.

YORK SCHWARTZ, OF HANOVER, GERMANY.

PROCESS OF PRODUCING PHOTOGRAPHIC FILMS.

SPECIFICATION forming part of Letters Patent No. 436,587, dated September 16, 1890.

Application filed February 4, 1889. Serial No. 298,613. (No specimens.)

To all whom it may concern:

Be it known that I, YORK SCHWARTZ, a citizen of Germany, residing at Hanover, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in the Process of Producing Photographic Films; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved process of producing photographic films having increased sensitiveness to light; and the invention consists in mixing the material for making the film with or coating the photographic films with formaldehyde or a compound of formaldehyde with bisulphite salts.

My improved process is based on the discovery that the sensitiveness of silver compounds to light is materially increased or that the effect of light on the same is continued by the presence of formaldehyde, or a compound of formaldehyde with a bisulphite of an alkali metal or of ammonia or of substituted ammonia (capable of forming bisulphite) in the sensitive silver compounds.

For photographic purposes these discoveries may be utilized as follows: First, by adding one or more of the specified compounds, either alone or in mixture with other substances, to the substances for making the films at the time of the production of the sensitive film; second, by bathing the finished photographic film in a solution of the said compounds or mixtures before the film is ex-

posed to light, and, third, by treating the photographic film after exposure with a solution of the said compounds or mixtures. In this case the changes produced in the film by the action of the light are continued, so as to obtain in this manner the same result as by a correspondingly-longer exposure to light.

The application of the said compounds constitutes an important improvement in the manufacture of photographic films, because they possess in an increased measure all advantages of the substances hitherto employed for similar purposes without sharing their faults—for instance, the tendency to form clouds or specks or of imparting a yellowish tint to the film.

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

1. The process of producing photographic films having increased sensitiveness to light, which consists in subjecting the photographic films to the action of formaldehyde, substantially as set forth.

2. The process of producing photographic films having increased sensitiveness to light, which consists in subjecting the photographic films to the action of a compound of formaldehyde and bisulphite salt, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

YORK SCHWARTZ.

Witnesses:

HERMANN MERCKLIN,
GERH. LÖSEKANN.