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ANTIHALATION COATING FOR PHOTOGRAPHIC PLATES AND CINEMATOGRAPH FILMS.

APPLICATION FILED APR. 2, 1914.

1,305,195. Patented May 27, 1919.

Fig. 1.

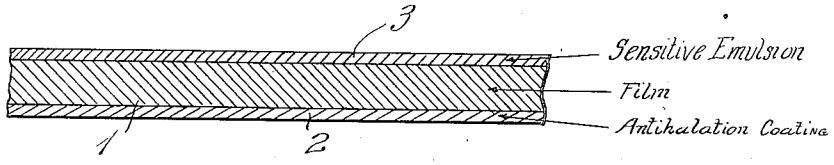


Fig. 2.

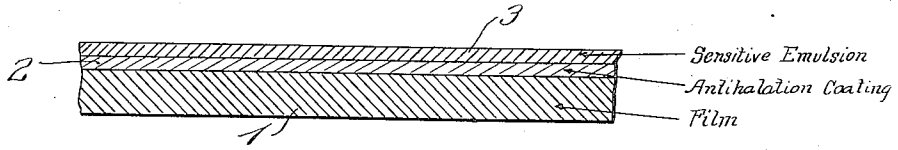
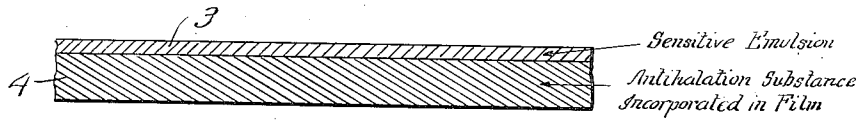


Fig. 3.



Witness

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UNITED STATES PATENT OFFICE.

SILVIO COCANARI, OF VIEUX-DIEU, NEAR ANTWERP, BELGIUM.

ANTIHALATION COATING FOR PHOTOGRAPHIC PLATES AND CINEMATOGRAPH-FILMS.

1,305,195. Specification of Letters Patent. Patented May 27, 1919.

Application filed April 2, 1914. Serial No. 829,125.

To all whom it may concern:

Be it known that I, SILVIO COCANARI, technician, a citizen of the Kingdom of Italy, and resident of Vieux-Dieu, near Antwerp, Belgium, have invented certain new and useful Improvements in Antihalation Coatings for Photographic Plates and Cinematograph-Films; and I do hereby 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form part of this specification.

The present invention relates to improvements in photographic plates and films and cinematograph films. The object is to avoid what is termed in photography as halation. This phenomenon is due to luminous rays, that have passed through the sensitive coating, striking the back of the plate or the film and being reflected back from it at a certain angle on to the sensitive emulsion or coating.

The reflection of the luminous rays produces a white aureole or halo around the images of objects that are too clear or too luminous.

Up to the present this objectionable feature has been overcome by covering the back of the plate, that is to say, the side opposite to the one coated with the sensitive emulsion, with a coating of red, yellow or black coloring matter. These colors have the property of absorbing the luminious actinic rays, and, consequently, they prevent the reflection of those rays and thus avoid the second impression of the image around the first one, that is to say, the formation of the halo on the photographic plate.

The anti-halation coating which covers the back of the plates is generally formed of a gluey substance, soluble in water and in the baths used for developing the plates. With it there is mixed a quantity of lamp black or other insoluble coloring material. Before proceeding to develop the plate, the coating must be washed off or removed, for, otherwise, it would be impossible to carry out the printing of positives by means of the negatives obtained with such plates, for the anti-halation coating would stop the passage of the actinic rays.

This known process is objectionable in many ways. The presence of such a coating, soluble and gluey, and consequently almost always hygroscopic, exercises an unfavorable influence on the preservation of the sensitive emulsion, or the coating adheres to the emulsion. This latter occurs especially with films.

Before developing, the plates or films must be washed very carefully, and this is a difficult procedure with strips of films of considerable length. Lastly, it very frequently happens that portions of the anti-halation coating adhere to the sensitive surface.

In the accompanying drawing which forms a part of the application:

Figure 1 is a section of a film in which the non-halation coating is disposed on the back of the film;

Fig. 2 is a similar view of a modified form showing the non-halation coating placed between the sensitized layer and the film support; and

Fig. 3 is a similar view of another modification wherein the non-halation substance is incorporated in the film support.

In Fig. 1 of the drawings there is illustrated a photographic or cinematographic film or plate, the support 1 of which is provided on one side or surface with a layer 3 of sensitive emulsion and on its other side or surface with an indelible non-halation layer or coating 2. This non-halation coating 2 according to the present invention is formed of an indelible, insoluble and permanent coating of a dark actinic color. Tests have shown that a dark violet color gives the best results. The coating 2 colored with this actinic color presents a dark surface to the rays that are reflected upon it and acts like an ordinary non-actinic non-halation coating. Another feature of this violet non-halation coating is that it offers no obstacle to the passage of red light which is used in the developing room, and because of this fact the progress of development of the film can be readily observed. This feature is important as most non-halation coatings which are permanent are not transparent to red non-actinic light and they completely hide the image on the film and make development of the same very difficult. Furthermore, owing to the transparency of the violet coating it offers no obstacle to the passage of the luminious actinic rays for the printing of positives. It is thus unnecessary to remove the non-halation coating

during the printing process, and obviously this is a great improvement over the heretofore known non-halation films or plates.

The non-halation coating 2 is generally spread on the back of the film or plate support as illustrated in Fig. 1, but it can just as readily be placed between the sensitized emulsion 3 and the support 1 as shown in Fig. 2, or the film support can be colored violet, or in other words, the indelible coating can be incorporated in the film support 4 as shown in Fig. 3 of the drawing. In either case the result is the same, as the violet backing prevents the rays of light which pass through the sensitized emulsion from being reflected back upon the same causing halation.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. A photographically sensitive element including a sensitized layer and an indelible violet colored backing for said layer, said violet colored backing being of an intensity to prevent halation, but being transparent to actinic rays and also to non-actinic red light.

2. A photographically sensitive element comprising a transparent support having a photographically sensitive coating on one of its surfaces and having an indelible violet colored layer located in the rear of said sensitized coating, said violet colored coating being of an intensity adapted to prevent halation, but being transparent to actinic rays and to non-actinic red light.

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

SILVIO COCANARI.

Witnesses:
M. DEFÈVRIMONT,
PAUL BART.