

UNITED STATES PATENT OFFICE

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PHOTOGRAPHIC MATERIAL

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1 Claim. (Cl. 95-8)

Our present invention relates to a photographic material having a layer containing special dyestuffs.

One of its objects is to provide a photographic material having a layer containing phthalocyanines. Other objects of our invention will be understood from the following detailed description.

In the production of photographic material soluble and insoluble dyestuffs are required for various purposes, for instance for making anti-halation layers or filter layers and for coloring photographic emulsions. There exists in a more or less strong degree the possibility that the coloring substances used will affect the photographic silver halide emulsions when first added or during further treatment. It is known that the properties of photographic silver halide emulsions are unfavourably influenced even by very small proportions of foreign substances. In particular the sensitivity of the emulsion may be considerably lowered by many soluble dyestuffs and also, indeed, by pigments which are practically insoluble and might therefore be expected to have no effect, for example colored lakes produced by precipitation of basic triphenylmethane dyestuffs or xanthene dyestuffs with phosphotungstic acid and pigments of the indigo series and indanthrene series. The choice of suitable dyestuffs applicable for the production of photographic materials is small, especially those of blue to green tint.

This invention is based on the observation that the phthalocyanines and their metal compounds, among which are dyestuffs of bright blue, blue

green and green tints, are especially suitable for use in photographic silver halide emulsions. These phthalocyanines are useful in all cases in which the photographic material is one wherein there is the possibility that the dyestuff may act upon the photographic silver halide emulsion; more especially the sensitivity of the photographic emulsion is only very slightly influenced by the said dyestuffs.

These dyestuffs, especially the sulfonated phthalocyanines which are soluble in water, may be used for making colored layers of all kinds, for example filter layers, anti-halation layers, colored emulsion layers, whether single layers or multiple layers, coating layers or the like. The phthalocyanines are also suitable for "blueing" barite paper, particularly copper phthalocyanines, since an emulsion applied to barite paper is not unfavourably influenced. The insoluble phthalocyanines, for instance phthalocyanines which are free from metal, are especially useful for coloring emulsions for the purposes of color photography. Information concerning phthalocyanines is to be found in the work of Linstead and his co-workers in the Journal of the Chemical Society, vol. 136 (1934) pages 1016 and following.

What we claim is:

A photographic material comprising a silver halide emulsion layer containing a dye selected from the group consisting of a phthalocyanine, a sulfonated phthalocyanine and a metal phthalocyanine.

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