

PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION.



Improvements in or relating to Colour Photography.

(A Communication from COMPAGNIE D'EXPLOITATION DES PROCÉDÉS DE PHOTOGRAPHIE EN COULEURS LOUIS DUFAY, known as "VERSICOLOR DUFAY", of 10, rue Champ Legarde, Versailles (Seine & Oise), France, a French Company.)

I, HAROLD WADE, a British Subject, of 111/112, Hatton Garden, London, E.C. 1, do hereby declare the nature of this invention to be as follows:—

This invention consists of improvements in or relating to colour photography. One object is to enable a reproduced film (in natural colours), such as a positive, to be successfully produced from a master film, such as a negative; and another object is to enable multi-colour screens to be produced on those films which are to be used respectively as master films and as reproduced films. The invention has particular reference to cinematography in natural colours.

The production of multi-colour screens (and sensitised film embodying the same) for colour photography is typified by the process described in Patent No. 217,557, in which there is applied to a dyed support fatty resists in the form of straight parallel lines. In processes of this type it is customary after one series of dyeing operations, to print on the support a second series of parallel lines consisting of fatty resists, such lines being at right angles to the first series.

If a master film and a film to be reproduced in natural colours by contact-printing on the master film, be both formed on films having identical multi-colour screens (or having lines at the same angles) interference effects are set up, such as the moiré effect, and this prevents satisfactory printing.

According to this invention, a method of copying a reseau master picture of the geometrical kind, on a sensitive surface, having a reseau of the same kind, consists of disposing the master picture and the receptive surface in a relative angular position, such that the corresponding lines of the patterns are at an angle to one another such that the moiré effect in the copy is absent.

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In the case of cinematograph films, it is naturally impossible to give individual angular displacement to single pictures on a film, but the object of this invention may be achieved in various ways.

For example, according to this invention, the angle of the reseau lines to the edges of the film in the master negative film may differ from the angle of the reseau lines to the edge of the film in the reproduced or positive film.

For example, if the film receives two impressions of fatty resists in the form of straight lines, the first set of lines may be at an angle of 23° to the axial line of the cylinder, i.e. 67° to the edge of the film, and the second set of lines may be at right angles to the first set. However, when the printing operation takes place the films may be arranged face-to-face or back-to-back, and thus the corresponding reseau lines will be at 45° to one another, and there will be no moiré effect.

According to another method of carrying this invention into effect, the multi-colour screen for one type of film (e.g. for master films, or negative films) has its two sets of reseau lines at 45° and 45° to the film edges, while the multi-colour screen for the other type of film (e.g. for reproduced or positive film) has its two sets of reseau lines at 67° and 23° respectively to the film edges.

This invention is applicable either to contact-printing or to projection-printing, and in the case of projection-printing, the light-rays may be parallel to one another to ensure faithful reproduction.

In multi-colour screens of the kind referred to, as the lines of greasy ink are printed from engraved rollers, the reseau has the definite and precise mesh determined by the number of lines (and interspaces) per millimetre. Thus, there may be 15 lines per millimetre.

According to a further feature of this invention, a method of producing cinematograph films in colours is characterised by the employment of a master (e.g. negative) film having reseau lines of different mesh from that of the reseau lines on the reproduced (e.g. positive) film.

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Chartered Patent Agents.

Dated this 3rd day of August, 1928.

COMPLETE SPECIFICATION.

Improvements in or relating to Colour Photography.

- (A Communication from COMPAGNIE D'EXPLOITATION DES PROCÉDÉS DE PHOTOGRAPHIE EN COULEURS LOUIS DUFAY, known as "VERSICOLOR DUFAY", of 10, rue Champ Legarde, Versailles (Seine & Oise), France, a French Company.)
- I, HAROLD WADE, a British Subject, of 111/112, Hatton Garden, London, E.C. 1, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—
- This invention consists of improvements in or relating to colour photography. One object is to enable a reproduced film (in natural colours), such as a positive, to be successfully produced from a master film, such as a negative; and another object is to enable multi-colour screens to be produced on these films which are to be used respectively as master films and as reproduced films. The invention has particular reference to cinematography in natural colours.
- The production of multicolour screens (and sensitised film embodying the same) for colour photography is typified by the process described in Patent No. 217,557, or by the process described in British Patent Specification No. 22,607/28 (Serial No. 322,432), in which there is applied to a dyed support fatty resists in the form of straight parallel lines and pictures based on such parallel linear dyed supports are herein referred to as pictures having reseaus of the linear kind. In processes of this type it is customary after one series of dyeing operations, to print on the support a second series of parallel lines consisting of fatty resists, such lines being at right angles to the first series.
- If a master film and a film to be reproduced in natural colours by contact-printing on the master film, be both formed on films having identical multicolour screens (or having lines at the same angles) interference effects are set up, such as the moiré effect, and this prevents satisfactory printing.
- According to this invention there is provided a method of copying a reseau master film of the linear kind on a sensitive surface or film having a reseau of the same kind in which the angle of the reseau lines to the edges of the film in the master (e.g. negative) film is oblique and differs from the angle of the reseau lines to the edge of the film in the reproduced (e.g. positive) film.
- For example, if the film receives two impressions of fatty resists in the form of straight lines, the first set of lines may be at an angle of 23° to the axial line of the cylinder, i.e. 67° to the edge of the film, and the second set of lines may be at right angles to the first set. However, when the printing operation takes place the films may be arranged face-to-face or back-to-back, and thus the corresponding reseau lines will be at 45° to one another, and there will be no moiré effect.
- According to another method of carrying this invention into effect, the multicolour screen for one type of film (e.g. for master films, or negative films) has its two sets of reseau lines at 45° and 45° to the film edges, while the multicolour screen for the other type of film (e.g. for reproduced or positive film) has its two sets of reseau lines at 67° and 23° respectively to the film edges.
- This invention is applicable either to contact-printing or to projection-printing, and in the case of projection-printing, the light-rays may be parallel to one another to ensure faithful reproduction.
- In multicolour screens of the kind referred to, as the lines of greasy ink are printed from engraved rollers, the reseau has the definite and precise mesh determined by the number of lines (and interspaces) per millimetre. Thus, there may be 15 lines per millimetre.
- According to a further feature of this invention, a method of producing cinematograph films in colours is characterised by the employment of a master (e.g. negative) film having reseau lines of different mesh from that of the reseau lines on the reproduced (e.g. positive) film.
- The following is a description by way of example of one method of carrying this invention into effect.
- A sensitised film embodying a multicolour screen intended for the production of master film (e.g. negative film) is pro-

duced by the process described in British Patent Specification No. 22,607 of 1928, and the two sets of parallel lines on the film are arranged at right angles to each other and at 45° to the edges of the film. There is a definite number of lines to the millimeter, say 15 to 20.

A sensitised film embodying a multicolour screen is prepared for the reproduced (e.g. positive) film also by the process described in British Patent Specification No. 22,607 of 1928 (Serial No. 322,432) but in this case the two rows of parallel lines on the film which are at right angles to one another are disposed at 67° and 23° respectively to the film edges. Furthermore, the number of lines to the inch may be different from that in the master film, for example the number of lines might be less than the number on the master film.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that I am aware of prior British Patents No. 211,486, No. 12,891/11, No. 28,614/07 and No. 20,894/06, and I make no claim to anything described and claimed therein but what I claim is:—

1. A method of copying a reseau master film of the linear kind on a sensitive surface or film having a reseau of the same kind in which the angle of the reseau lines to the edges of the film in the master (e.g. negative) film is oblique and differs from the angle of the reseau lines to the edge of the film in the reproduced (e.g. positive) film.

2. A method as claimed in Claim 1, in which each film receives two impressions of fatty resists in the form of straight lines at right angles to one another and not at 45° to the edges of the film (say at 67° and 23° respectively to the edges of the film) characterised by the fact that for the printing operation the films are arranged face-to-face or back-to-back so that the corresponding lines will be at 45° to one another and there will be no moiré effect.

3. A method as claimed in Claim 1 in which the multicolour screen for one type of film (e.g. for master film or negative film) has two sets of reseau lines at 45° and 45° to the film edges, while the multicolour screen for the other type of film (e.g. for reproduced or positive film) has two sets of reseau lines at 67° and 23° respectively to the film edges.

4. A method as claimed in any of the preceding claims in which projection printing is employed and the light rays are projected from one film to the other parallel to one another and at right angles to the film surface.

5. A method as claimed in any of the preceding claims characterised by the employment of a master (e.g. negative) film having reseau lines of different mesh from that of the reseau lines on the reproduced (e.g. positive) film.

Dated this 15th day of October, 1928.

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