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PATENT SPECIFICATION



Convention Date (Germany): Nov. 18, 1929.

369,262

Application Date (in United Kingdom): Nov. 18, 1930. No. 34,715/30.

(Patent of Addition to No. 356,701: dated May 8, 1929.)

Complete Accepted: March 18, 1932.

COMPLETE SPECIFICATION.

**Process of Reproducing Colour-record Images on Lenticular Films
by Projection-printing.**

We, I. G. FARBENINDUSTRIE AKTIEN-GESELLSCHAFT, a Joint Stock Company organised according to the laws of Germany, of Frankfurt a/Main, Germany, 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 is an improvement in or a modification of that described in Specification No. 356,701.

That specification describes a process of printing colour-record images formed on a lenticular film by optical means on to another lenticular film without lateral inversion while the negative film is illuminated from the side next the lenticular surface in such a manner that a luminous plane is projected on the negative film. When the illumination is produced in this way, the lens elements of the film to be copied give rise to the formation of a number of interference images of each point of the plane which the colour screen occupied in the original exposure. In one arrangement described in Specification No. 356,701 there is placed in the plane which the colour screen occupied in the original exposure a diaphragm in the form of a slot extending at an acute angle to the longitudinal direction of the cylindrical lens elements of the negative film and the breadth of which is selected so that the interference images projected by them owing to the refracting lenticular surface do not cover each other. In the plane of the real image projected by this diaphragm there may be placed a further slot-like diaphragm which allows to pass only the undeflected image emanating from the slot of the first diaphragm.

According to this invention, the arrangement above described is simplified by substituting for the illuminated plane and the first-named slot-like diaphragm of that arrangement a thin straight incandescent filament extending at an acute angle to the longitudinal direction of the cylindrical lens elements of the negative

film and having a breadth which is selected so that the interference images projected by the elements do not cover each other. By giving the source of light the form of a thread there is obtained in a simple and cheaper way the same effect as with the combination of a luminous plane with a slot-like diaphragm.

As in the arrangement described in the parent Specification, in some cases there is placed in the plane of the real image projected by the filament a second slot-like diaphragm, having its slot parallel with the incandescent filament and allowing to pass only the undeflected image emanating from the filament. This diaphragm may be dispensed with, however, in cases in which the interference images projected by the elements of the lenticular film occupy only a narrow range and do not extend outside the area corresponding with a single colour zone.

Optical systems for printing a lenticular film by optical projection on to another lenticular film are already known in which there is used a linear source of light, such as a straight filament; in the known systems the filament is arranged parallel with the longitudinal direction of the cylindrical lens elements, and a diaphragm is necessary in order to eliminate the effects due to the formation of interference images.

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

A process of printing a lenticular film by optical means on to another lenticular film without lateral inversion according to Specification No. 356,701, wherein the negative film is illuminated from the side next the lenticular surface by means of a thin straight incandescent filament extending at an acute angle to the longitudinal direction of the cylindrical lens elements of the negative film and the breadth of which is selected so that the interference images projected by the ele-

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ments do not cover each other, there being placed in the plane of the real image projected by the filament, if necessary, a diaphragm having a slot parallel with the filament and allowing to pass only the undeflected image emanating from the filament.

Dated this 18th day of November, 1930.

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