PATENT SPECIFICATION

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Complete Accepted: June 23, 1932.

COMPLETE SPECIFICATION.

Improvements in, or relating to, Colour Photography.

We, SOCIETE FRANCAISE DE CINEMATOGRAPHIE ET DE PHOTOGRAPHIE FILMS EN COULEURS KELLER-DORIAN, a societe anonyme organised under the laws of France, of 42, rue d'Enghien, Paris, France, 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:—

The invention relates to the copying of reticulated or goffered film, as used particularly for colour kinematography.

As is well known, the reproduction of the pictures on a reticulated film on another reticulated film gives rise to the phenomenon called "moire effect".

Several methods have been already proposed to obviate the formation of this detrimental effect. In particular the British Patent No. 317,060 discloses a method which consists in making use of an optical reproducing system adapted to give an image of an infinitely small luminous spot as a circle called the "circle of diffusion", the diameter of which is equal to the base width of the lenticular elements of the film. The fineness of definition of the photographic image of the reproduced film is equal in this case to said width.

On the other hand, it is known that, when the dimensions of the lenticular elements are not the same on the original film and on the film on which the reproduction is to be made, it is sufficient to make the circle of diffusion of the reproducing lens equal in diameter to the base width of the smaller lenticular elements.

The object of the present invention is to improve the quality of the photographic images of the reproduced films by reducing by half the diameter of the circle of diffusion of the reproducing system, while eliminating the "moire effect".

For this purpose we use a doubly refracting medium located in the path of the light rays, for instance in the vicinity of one of the two films, and which may, for example, consist of Iceland spar, quartz, or any other material exhibiting the property of double refraction.

If we call d the base width of the lenticular elements of the film having the smaller elements it will be sufficient to set up the refracting element in such manner that a straight line parallel to the reticulations seen through this element, may appear as two straight lines having between them a distance of $\frac{d}{2}$.

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:—

1. The method of reproducing on a reticulated film pictures on another reticulated film which comprises the interposition between the two films of a doubly refracting medium.

2. The method of reproducing pictures on a reticulated film on another reticulated film which consists in interposing between the original film and the film to be printed on a doubly refracting optical system so set up that a straight line parallel to the reticulations seen through this system may appear as two straight lines having a distance between them equal to half the base width of the lenticular elements of the film having the smaller elements.

3. Apparatus for reproducing on a reticulated film pictures on another reticulated film comprising a doubly refracting medium in the light path between the two films.

4. Apparatus for reproducing pictures on a reticulated film on another reticulated film comprising a doubly refracting optical system so set up that a straight line parallel to the reticulations seen through this system, may appear as two straight lines having a distance between them equal to half the base width of the lenticular elements of the film having the smaller elements.

5. Apparatus for reproducing pictures on a reticulated film on another reticulated film as claimed in claim 3 or 4 in which the doubly refracting optical system comprises Iceland spar.

6. An apparatus for reproducing pictures on a reticulated film on another reticulated film as claimed in claim 3 or

[*Price* 1/-]

4 in which the doubly refracting optical system comprises quartz.

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CARPMAELS & RANSFORD,
Agents for the Applicants,
24, Southampton Buildings, London,
W.C.2.

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