

PATENT SPECIFICATION



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COMPLETE SPECIFICATION.

Improved Manufacture of Films for Colour Photography.

We, SOCIÉTÉ DU FILM EN COULEURS KELLER-DORIAN, of 42, rue d'Enghien, Paris, France, a body corporate organised under the laws of France, do hereby
5 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:—

10 The present invention relates to films for colour photography, of the type in which the non-sensitized surface of the film is reticulated by means of an embossing surface with juxtaposed parallel lines
15 engraved thereon.

The film according to the present invention is characterised in that the width of each reticulation thereon is from 10 to 40% greater than the width of the image
20 of the colour-selecting screen which it projects on the sensitive surface for a given aperture of the projecting lens.

The process according to which the reticulations are formed is characterised
25 in that the film is partially dried before embossing to such an extent, depending on the nature, for example, the age and manufacture, of the celluloid comprising the film, that in conjunction with the
30 pressure exerted on the film by the embossing surface, and the temperature to which the film is raised, the reticulations acquire the desired curvature without contacting with the recessed surfaces of the die.

35 In practice the number of reticulations required to obtain sufficiently fine and sharp a reproduction of natural colours varies between 12 and 35 per millimetre, and these may be formed in juxtaposed
40 lines which may be disposed in any direction relatively to the edges of the film.

Each reticulation gives on the sensitized surface a complete image of the colour-selecting screen, incorporated in
45 the camera objective, and thus the colour radiations from the objective field are registered at all points in the field's image.

50 The films used in the camera, reconstitute the image in natural colours when projected on the screen through the same colour-selecting screen.

The reticulations are separated by

regions, the width of which vary with the quality of the reticulation. These regions
55 are detrimental to clear projection, since light passing through them from the camera objective is not confined to the areas occupied by the images of the colour-selecting screen on the sensitized
60 film. In order to minimise this defect the colour-selecting screen and the reticulations are so arranged that the width of each reticulation is from 10 to 40% greater than the corresponding width of
65 the image of the said screen which it projects on the sensitized surface for a given aperture of the projecting lens. Interstitial spaces on the sensitized surface of the film opposite these detrimental regions
70 thus remain unexposed when the picture is taken and these are blackened during the course of development by inversion, and thus divide the juxtaposed coloured bands and prevent any overlapping of the
75 adjacent edges thereof.

It is usual to reticulate films of the type set forth by pressing the plastic film right
80 home in the die for example, by means of a suitable roller, in which case the cross-section of the reticulations engraved in the die must correspond accurately to the desired cross-section of each reticulation to be formed on the film.

It has been found however that reticulations having circular curvature can be
85 formed by utilising the elastic properties of the film in order to obtain the required curvature. The film surface contacts with the dies at the edges only, expanding
90 freely into the recessed surfaces under the action of the surface tension of the film. This tension may be varied by adjusting the pressure applied between the film and the die, by adjusting the temperature of
95 the film during reticulation, and also by drying the film previous to reticulation to an extent depending on the nature of the celluloid which, it has been found, varies
100 considerably as regards its hygrometric condition according to its method of manufacture and its age.

These factors are adjusted for example by pressing the film on the embossing
105 apparatus by means of an adjustable counter-weight, by heating either the

reticulating apparatus or the counter-weight apparatus or both to a predetermined and uniform temperature and lastly, by imparting to the film the required hygrometric state by suitably drying it immediately before reticulation.

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 we are aware of Specification No. 246,829 and we make no claim to anything described or claimed therein, but what we claim is:—

1. A reticulated film for use in colour photography, characterised in that the width of each reticulation thereon is from 10 to 40% greater than the width of the image of the colour-selecting screen which it projects on the sensitive surface for a given aperture of the projecting lens.

2. A process of forming reticulations on

a film of the kind claimed in Claim 1, characterised in that the film is partially dried before being subjected to an embossing die, to such an extent depending on the nature of the celluloid comprising the film that together with the pressure applied thereto and the temperature to which the film is raised the reticulations acquire the desired curvature without contacting with the recessed surfaces of the die.

3. Films when reticulated by the process according to Claim 2.

4. The process of reticulating films for use in colour photography substantially as described.

Dated this 3rd day of November, 1926,
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