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PROVISIONAL SPECIFICATION.

A Selective Taking-screen or Filter Plate for Colour Photography at One Operation

I, CLARE LIVINGSTONE FINLAY of 22 Marchmont Street Russell Square in the County of London Photo Engraver do hereby declare the nature of this invention to be as follows:—

5 I make a plate that will either by photographic or mechanical means give a print of a regular sequence of dots of any shape.

This print is made in a selected colour on a transparent material.

The plate or material is then moved so that the same plate or a similar one can be used to print a second series of dots in another selected colour adjacent to the first.

10 Using this two-colour screen, with clear spaces between the colour dots, I place in contact with it a sensitised transparent material. On exposure to light it records only the light that passes through the clear spaces. By suitable means this latter transparent material is coloured with a selected colour. It is then cemented or otherwise placed in register with the first named transparent medium.

15 Or the first named, two colour transparency may be coated with a sensitised solution and the light recorded parts coloured with the selected colour.

This description is intended to apply to three colour photography but the invention can be modified to suit two, four or more colours.

20 Dated this 3rd day of September 1906

CLARE LIVINGSTONE FINLAY.

COMPLETE SPECIFICATION.

A Selective Taking-screen or Filter Plate for Colour Photography at One Operation

25 I, CLARE LIVINGSTONE FINLAY of 22 Marchmont Street Russell Square in the County of London, Photo-engraver, 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:—

30 A selective taking screen is intended to be used in front of the sensitive surface in the camera and is made of patches or dots of transparent colour (hereinafter called patches) usually of the three primary colours of the spectrum.

My invention relates to the making of such screens partly by photographic and partly by mechanical means and their use.

35 The following description and drawings are intended to apply to three colour

[Price 8d.]



A Selective Taking-screen or Filter Plate for Colour Photography at One Operation.

photography on one plate but my invention can be applied to photography in two four or more colours.

Selective taking screens have been made before by the following methods. (a) Screens in which the colour patches were of similar and equal angular shape bounded by straight lines arranged in regular sequence and order (b). Screens in which the colour patches had no regular sequence and order and were of irregular shape and consequently in which the distribution of colour was not a matter of exact construction. (c) Screens in which two of the colours (for three colour work) were applied as a lithographic grain such colours falling one upon the other in some parts, leaving clear uncoloured spaces elsewhere, the third colour being obtained by coating the printed material with a coloured solution made sensitive to light and printed through the back and developed as in the pigment process. (d) Screens in which two of the colour patches are impressed in lines at right angles upon a material capable of being dyed with the third colour.

In previous attempts no use has ever been made of regular oval or circular patches in regular sequence and order for such screens.

My invention is a taking screen as hereinafter described composed of oval or circular patches impressed on a transparent material in regular sequence and order for the first two colours and for the third colour the construction and use of a patch which is never the same shape as either of the other two being in fact the remainder of the area of a surface after the other two are impressed upon it.

The following are two methods of carrying out my invention.

ONE METHOD.

I make a plate which by photographic or mechanical means gives a print in regular sequence and order of patches of circular or oval shape. In the following description and drawings it is convenient to consider such patches as being circular.

With this plate an impression is made in a selected transparent colour on a transparent material as indicated in the drawing by the part marked "A". The plate or material is then moved so that a second impression may be made in another selected colour, adjacent to the first as indicated in the drawing by the part marked "B" the only necessity being that the patches shall not overlap.

Placing this two-colour screen with clear spaces between the colour patches in contact with a suitably sensitised transparent material on exposure to light I obtain a record only of the light that has passed through the clear spaces, as indicated in the drawing by the part marked "C". This plate or complement on being immersed in a dye bath of the third selected colour will absorb the dye and become coloured in those portions which have been acted on by light. It is then cemented or otherwise placed in register with the first named transparent material.

ANOTHER METHOD.

Stripping or transfer paper is coated with a soft gelatine holding in suspension a silver haloid and when dry is printed on firstly in one of the three selected transparent colours and after moving the position of the plate or paper as already referred to is printed in another of the three transparent colours. The gelatine emulsion must be sensitised with a bichromate salt either before or after coating or after printing the double series of patches. If done before, such printing must be carried out in non actinic light. Whatever the procedure the sensitive paper bearing the double series of patches is then exposed for a sufficient time to light. The coating is now transferred by suitable means to its transparent support such as glass gelatine celluloid or the like and the temporary support removed. The gelatine emulsion which is now uppermost is developed with warm water and the soluble parts in front of the colour

A Selective Taking-screen or Filter Plate for Colour Photography at One Operation.

patches washed away such development being rendered visible by means of the silver haloid which also prevents too great a swelling of the gelatine. It is then fixed *i.e.* the silver haloid removed by means of a bath of thiosulphate of soda in solution. The now clear gelatine between the colour patches is stained
 5 with the third selected colour by immersion in a dye bath.

For photography in colour on one plate, other than three colours as before described, I impress in the manner described all the colours save one (the last) by means of circular shaped patches the last being always the remainder or complement of the area after the other colours have been impressed upon it.
 10 It can therefore be adapted to photography in two four or more colours.

My invention includes the adaptation of such screens to the construction of panchromatic plates films or the like either by placing the screen in contact with the same or by making the screen to form a part of such plate, film or the like.

15 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is

(1) A taking-screen composed of patches of colour for three colour photography on one plate which has for two of its colours patches which are circular
 20 or oval in shape impressed in regular sequence and order but without need for registration except that the patches of colour must not overlap and has for its third colour patches the shape of which is never the same as either of the other two being the remainder or complement of an area of a surface after the other two are impressed upon it, substantially as described.

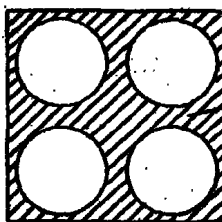
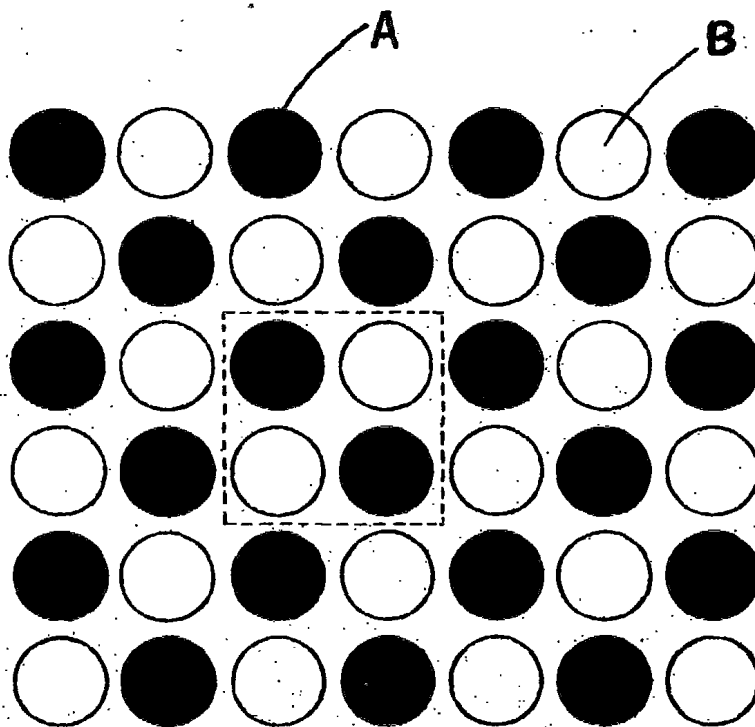
25 (2) A taking screen composed of patches of colour which for photography in two or more colours on one plate has for all the colours except one (the last) patches which are circular or oval in shape impressed in regular sequence and order as described in the preceding claim and has for its last colour a shape which is never the same as any of the preceding ones being the shape of the
 30 remainder or complement of the area of a surface after the preceding colours have been impressed upon it substantially as described.

(3) The adaptation of the screens claimed in the preceding claims to the construction of panchromatic plates films or the like when such screens are placed in contact with the same or are made to form a part of such plate film
 35 or the like.

Dated this 28th day of February 1907.

OLIVER S. DAWSON,
 254A High Holborn, W.C.
 Agent to
 Clare L. Finlay,
 The Applicant.

[This Drawing is a full-size reproduction of the Original.]



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