

N<sup>o</sup> 3729



A.D. 1903

Date of Application, 17th Feb., 1903

Complete Specification Left, 17th Nov., 1903—Accepted, 11th Feb., 1904

PROVISIONAL SPECIFICATION.

**“Improvements in and connected with Trichromatic Photography and Optical Projection”**

We, BENJAMIN JUMEAUX, of Colebrook Road, Southwick, Brighton Physician, and WILLIAM NORMAN LASCELLES DAVIDSON, of 20 Middle Street Captain late of the 4th Battn. “The Kings” (Liverpool Regiment), do hereby declare the nature of our invention to be as follows:—

5 This invention relates to “improvements in and connected with trichromatic photography” and optical projection and in carrying it into effect, we employ a prism (or prisms) of certain degrees (or angles) to suit the focus or foci of the lens or lenses employed, in order to obtain simultaneously identical images of the object (or objects) to be photographed. The prism or prisms themselves  
10 may be colored or contain colouring matter either liquid or otherwise to act the double purpose of a prism or prisms and colour screens (or color filter) combined, or they may be employed uncoloured, in conjunction with colour screens or colour filters in the usual manner. We can also cause the resulting positives (colour records) from the negatives to be projected by means of a powerful  
15 light on a screen, the prism (or prisms) in conjunction with the lens (or lenses) and colour screens (or colour filters) causing the positive images (or colour records) to superimpose in colours on the screen. The red sensation is usually permitted to impinge the sensitive surface direct through the lens (or lenses) and a red colour screen (or colour filter) without any prism or prisms inter-  
20 vening; the other colour (or colours) being admitted through the prism (or prisms) and lens (or lenses) and colour filters, to the sensitive surface in the manner already described.

The colour records may also be projected on the screen in the same order.

Dated this 13th day of February 1903.

25 **HUGHES & YOUNG**  
38 Ship Street, Brighton, Sussex. Agents.

COMPLETE SPECIFICATION.

**“Improvements in and connected with Trichromatic Photography and Optical Projection”**

30 We, BENJAMIN JUMEAUX, of Colebrook Road, Southwick, Brighton, Physician, and WILLIAM NORMAN LASCELLES DAVIDSON, of 20 Middle Street, Captain, late of the 4th Battn. “The King’s” (Liverpool Regiment) 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:—

35 This invention relates to “improvements in and connected with trichromatic  
[Price 8d.]

*Improvements in and connected with Trichromatic Photography, &c.*

photography and optical projection." and in carrying it into effect we employ a prism (or prisms) of certain degrees (or angles) to suit the focus or focū of the lens or lenses employed, in order to obtain simultaneously identical images of the object (or objects) to be photographed. The prism or prisms may be colored or contain coloring matter either liquid or otherwise to act the double purpose of a prism or prisms and color screen (or color filter) combined, or they may be employed uncolored, in conjunction with color screens or color filters in the usual manner, and, by the use of this invention we are able to produce simultaneously on a sensitive surface prepared to receive them, identical images of the object (or objects) to be reproduced in colors. We can also cause the resulting positives (color records) from the negatives to be projected by means of a powerful light on a screen, the prism (or prisms) in conjunction with the lens (or lenses) and color screens (or color filters) causing the positive images (or color records) to superimpose in colors on the screen. The red sensation is usually permitted to impinge the sensitive surface direct through the lens (or lenses) and a red color screen (or color filter) without any prism or prisms intervening; the other color (or colors) being admitted through the prism (or prisms) and lens (or lenses) and color filters, to the sensitive surface in the manner already described.

The color records may also be projected on the screen in the same manner.

In further explanation of our invention we make reference to the accompanying drawing whereon are shown in plan three arrangements for carrying our invention into effect.

Referring to Fig. 1, we show an arrangement for taking or projecting two negatives or positives in colors, say red and blue, where part of the rays from an object *a* pass directly through the lens *b* and a red filter on to one color sensitive plate or film *c* and also through a prism *d* colored blue or green (or having a blue or green filter) then through the lens *b* on to the second color sensitive plate or film *e* placed alongside the other plate *c*. It is not essential to have two separate plates: one long plate or film to receive the images being also useable.

Referring to Fig. 2, part of the rays from the object *a*<sup>1</sup> pass directly through the lens *b*<sup>1</sup> and a red filter on to the color sensitive plate or film *e*<sup>1</sup>, and through the prisms *d*<sup>1</sup> and *d*<sup>2</sup> the former colored blue (or having a blue filter) and impinging on the color sensitive plate *e*<sup>1</sup> and the latter colored green or yellow (or having a green or yellow color filter) and impinging on the color sensitive plate *f*, by which means three color records are simultaneously obtained, or by which three color positive records can be projected.

In Fig. 3, three lenses and two prisms are employed, and part of the rays pass direct from the object *a*<sup>2</sup> through the lens *b*<sup>2</sup> and a red filter to the color sensitive plate *e*<sup>2</sup>. Other rays from the object pass through the blue prism *d*<sup>3</sup> (or one having a blue filter) on to the color sensitive plate *e*: and other rays through the green (or yellow) prism *d*<sup>4</sup> (or one having a green (or yellow) color filter) on to the color sensitive plate *f*<sup>1</sup> thus again simultaneously producing three color records or providing means for projecting three such records on transparencies made from them.

In the arrangement shown in Fig. 3, the prisms may be placed either before or behind the lenses.

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) In photographic cameras a colored or color screened prism or colored or color screened prisms, through which and a lens part of the rays from the object pass to a proper color sensitive plate or film other portions of the rays passing directly through the lens and a red or orange screen on to a red sensitive plate or film.

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*Improvements in and connected with Trichromatic Photography, &c.*

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(2) In photographic cameras a colored or color screened prism partly covering the front of a lens through which prism and the lens part of the rays from the object or objects pass to a proper color sensitive plate or film, other portions of the rays passing directly through the lens and a red or orange screen or color filter on to a red sensitive plate or film substantially as hereinbefore described with reference to Fig. 1 of the accompanying drawing.

(3) A modification of the arrangement claimed in the above Claim (2) in which modification two prisms are used in conjunction with one lens and three color sensitive plates or films substantially as hereinbefore described with reference to Fig. 2 of the accompanying drawing.

(4) In photographic cameras the use of three lenses through one of which and a red or orange screen or color filter part of the rays from the object or objects pass to a red sensitive plate or film, one of the other lenses having before or behind it a blue colored or screened prism and the other a green (or yellow) colored or screened prism through which blue and green or yellow colored or screened prisms and their lenses pass other portions of the rays to blue and green (or yellow) sensitive plates or films respectively substantially as hereinbefore described with reference to Fig. 3 of the accompanying drawing.

(5) In photographic cameras or projecting apparatus the combination of a prism or prisms with a lens or lenses or with some of the lenses substantially as hereinbefore described with reference to Figs. 1, 2, and 3 of the accompanying drawing.

Dated this 14th day of November, 1903 .

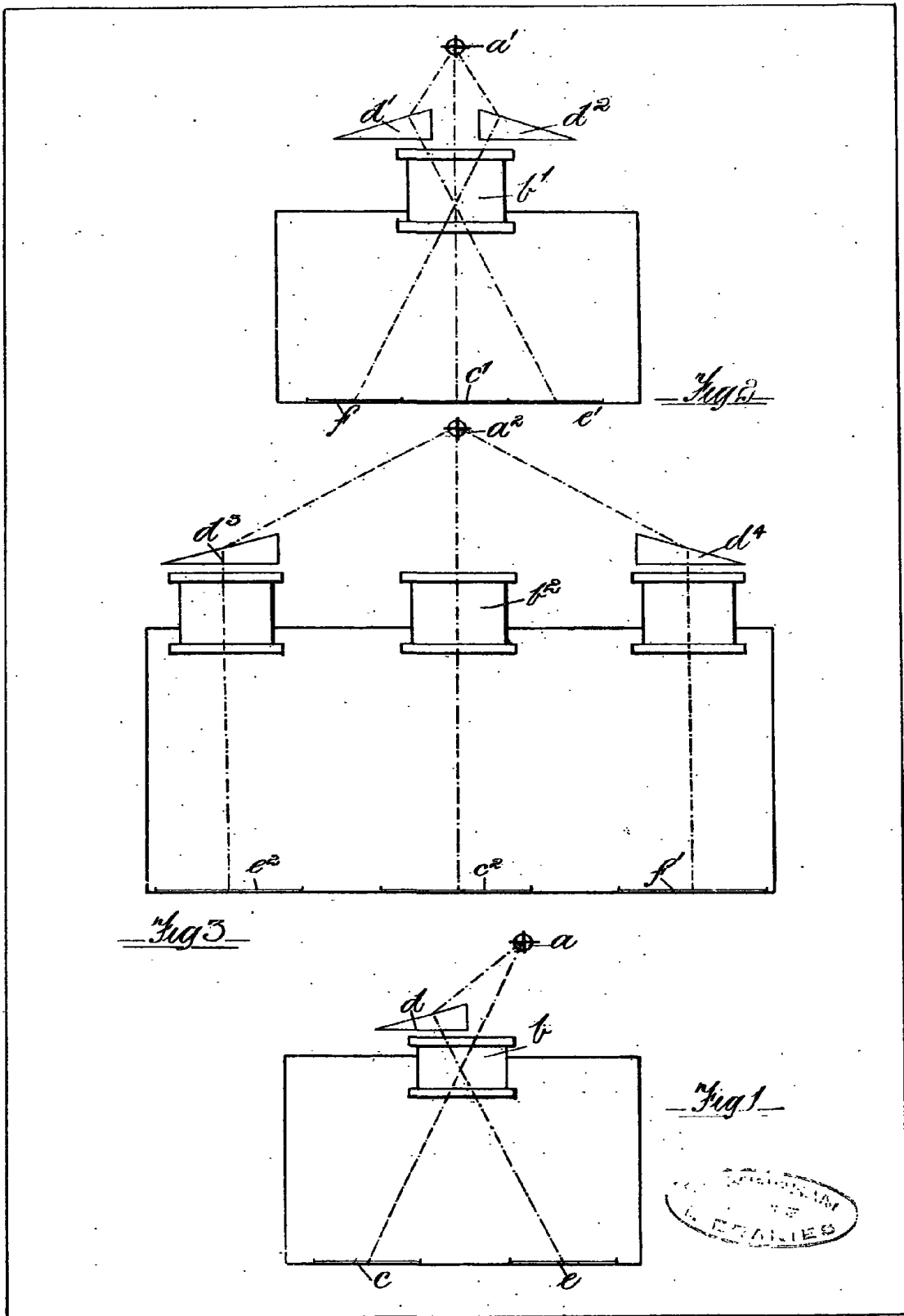
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JUMEAUX & another's COMPLETE SPECIFICATION.

(1 SHEET)



[This Drawing is a reproduction of the Original on a reduced scale]

