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PROCESSES OF FILMING, TAKING AND PHOTOGRAPHY
AND KINEMATOGRAPHIC PROJECTIONS RENDERING
POSSIBLE TO OBTAIN ON AN ORDINARY SCREEN
PICTURES IN RELIEF AND NATURAL COLORS
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Fig. 1.

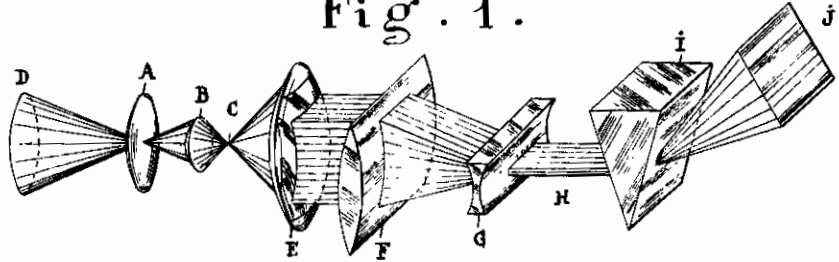


Fig. 2.

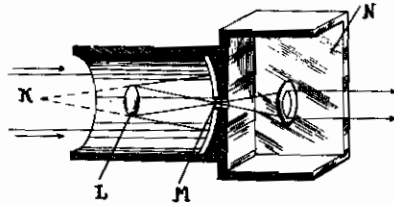


Fig. 3.

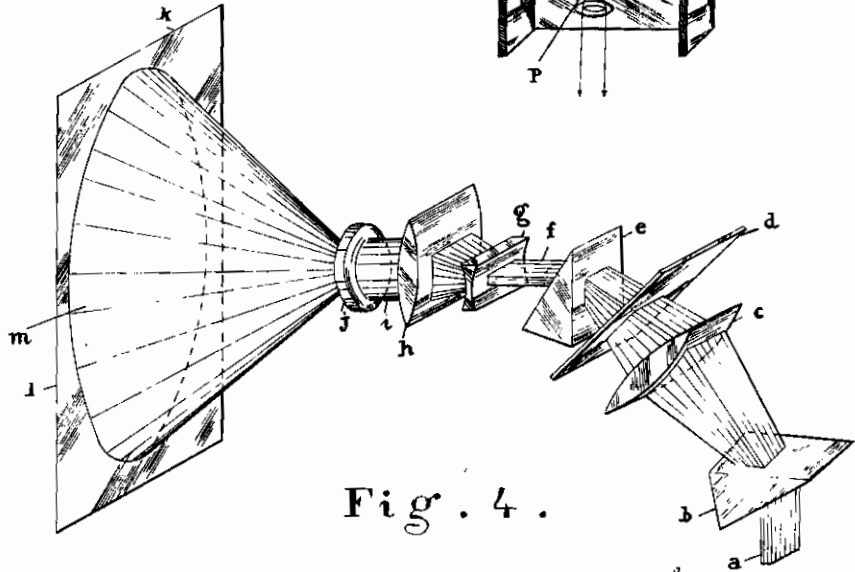
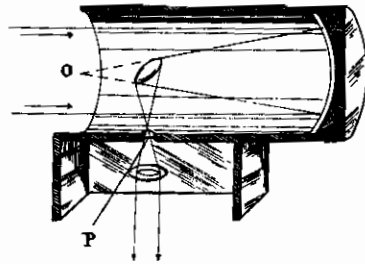


Fig. 4.

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ALIEN PROPERTY CUSTODIAN

PROCESSES OF FILMING, TAKING AND PHOTOGRAPHY AND KINEMATOGRAPHIC PROJECTIONS RENDERING POSSIBLE TO OBTAIN ON AN ORDINARY SCREEN PICTURES IN RELIEF AND NATURAL COLORS

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The invention consists of processes of filming taking and photography and kinematographic projections rendering possible to obtain on an ordinary screen pictures in relief and natural colors by means of ordinary films in white, gray and black.

It can be understood by means of the drawings attached as an illustration of the present description.

Fig. 1 shows in schematic form the camera with object-glass consisting of lenses. Through object-glass AB, picture C of scene D is operated at the diametrical dimension of approximately $\frac{1}{2}$ millimeter and increases its size on the front side of a convergent lens E, from where the light emerges in a pencil of parallel rays, that the cylinder-shaped lens F converges on its focal axis. A divergent cylinder-shaped lens G projects its rays in a beam H of a reduced thickness that a prism I analyses in a spectral band J of the picture D shaped on E.

Fig. 2 shows in a schematic section a telescopic device which gives the same results as objective AB of Fig. 1. Reflected on a parabolic mirror of a telescope of the "Gregory" type, the scene to be filmed at a reasonable distance would reproduce its punctiform picture at point K of the said mirror if a little mirror, plan L reflected it at the opening M of a dark room N where is reproduced system E—F—G—H—I—J of Fig. 1.

Fig. 3 shows in a schematic section the telescopic device which gives the same results as those of Fig. 2—Reflected on to the parabolic mirror of a telescope of the "Newton" type, the scene to be filmed at a reasonable distance would reproduce its punctiform picture at point O of the said mirror, if a little mirror, inclined at 45° on the axis of the telescope reflected it at the lateral opening P of a dark-room where is reproduced system E—F—G—H—I—J of Fig. 1.

Fig. 4 shows a schematic view of the camera. A beam A of parallel rays emanating from a source of appropriate light refracts itself through a prism e in a spectral band on the cylinder-shaped lens converging C functioning as a condenser and converges these rays of colors through the positive d of the film to be projected as well as through the prism e, from where they emerge as beam f of parallel rays that the system of cylinder-shaped lenses g and h develop in a pencil of rays i parallel, and lens j projects on the screen kl as picture m.

The invention concretes itself first so as to endow a camera with a device capable of reducing the diametrical size of the pictures to approximately $\frac{1}{2}$ millimeter, so that the rays usefully captured by the protruding lens of this objective will converge to the imaginary punctiform opening of a dark-room. Secondly, so as

to dissociate the picture from the scene to be filmed in all its length waves selected and graduated on a spectral band. Thirdly, so as to re-compose exactly, by a reversal of the rays through the moving-picture projector, what the camera had decomposed or analysed.

It rests on the propriety of panchromatic films being sensible to all colors. In fact, when a color is missing, the corresponding zone of the spectre of the scene filmed will appear in black on the positive to be projected,—therefore that color will not be projected. And likewise, the positive will let pass at the projection more colored light because of the fact that the negative will have been printed by stronger colors, as the corresponding zones will be closer to the white on the positive.

These qualities of the panchromatic emulsions not being rigorous it will be necessary to interpose on the passage of the rays a filter intended to lessen the disadvantages of this defect by absorbing partially, either at the filming or at the projection, the zones of the chemical action of the light relatively too strong which give on the positive some zones which let pass the light through in a relatively too strong a manner for the projection. This filter special for all brands of films and relating to the light used at the taking of the film and at the projection will be, either printed at the manufacture on the reverse side of the film, either colored on one side of the lens or the prism, or interposed on the aerial passage of the luminous rays such as the colored screens at present in usage.

The cameras of Figs. 1, 2 and 3, the aim of this invention, realize mechanically a distortion of the pictures which gives the impression of an aerial view by operating these pictures, entirely to the point, on the front side of lens E, from where the light emerges in a pencil of parallel rays, which it is sufficient to cut by a screen to realize an even picture of this spherical deformation of the scene to be filmed.

The curved ray of the front side of lens E should therefore be chosen practically as giving the best sensation of depth of the pictures.

Furthermore, in the E—F—G—H—I—J system of the cameras, only lens E is kept and a film is taken by means of the emerging beam—the pictures figuring which will be obtained will give this same sensation of aerial view. The use of the cameras of Figs. 1, 2 and 3 reduced to their objective system and to lens E, so as to obtain the monocular relief in the figured pictures as is actually in usage in kinematography and photography and therefore form an integral part of this invention.

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