(Under this application, which was originally made under Section 91 of the Patents and Designs Acts, 1907 to 1928, a specification was laid open to public inspection on July 24, 1929.)

PATENT SPECIFICATION

316,141

Application Date: July 22, 1929. No. 22,419 / 29.

Complete Accepted: Oct. 22, 1930.

COMPLETE SPECIFICATION.

Improvements in or relating to Cinematographic Apparatus.

I, JOHN JAMES VICTOR ARMSTRONG, Chartered Patent Agent, of 12, Church Street, Liverpool, in the County of Lancaster, Subject of the King of Great Britain, do hereby declare the nature of this invention, which has been communicated to me by " Sirius " Kleuren-Film-Maatschappij, of 15, Orangelaan, Bosch en Duin, near Utrecht, Holland, a Dutch Company, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in cinematographic apparatus, and more particularly to apparatus for producing two-colour pictures.

It is well known in the art, that for producing two-colour negatives the division of the light in front or behind the objective may be effected by means of suitably located pairs of mirrors. The path of the light through the pairs of mirrors is naturally very long and demands objectives of longer focal lengths in comparison with the direct path in the case of a flat plane.

In order to shorten this long mirror path considerably and thus to permit the use of an objective of shorter focal length with a gain of light, it has been proposed to use a single mirror to distribute the light in conjunction with a double-width film.

According to the present invention in an apparatus for taking two-colour cinematographic pictures having a transparent mirror inclined at an angle of 45 degrees for dividing the light, a single-width film is passed successively over windows arranged at right angles to one another, separate images being arranged one above the other on said film.

This arrangement renders necessary however, a special path for the film strip which differs from that normally adopted since the two image planes are relatively arranged at an angle of 90°. It is necessary that the film strips should be bent through an angle of 90 degrees so as to pass through the image planes inclined at this angle.

As the two pictures will lie mirror-reversed to each other, which is not always desirable and may cause difficulties particularly in copying, this defect may be avoided by reversing by means of a prism the picture which is not reflected by the mirror. The arrangement is particularly advantageous if one of the sides of a prism forms the mirror.

In the accompanying drawings two embodiments of the invention are illustrated diagrammatically, in which:—

Figure 1 shows a preferred construction of the improved apparatus, and

Figure 2 a modification thereof.

Referring now to Figure 1 of the drawing O is the objective, S the transparently silvered mirror. B^1 and B^{11} show the direction of travel of the film strip. The planes of the two two-colour partial pictures are located at an angle of 90° to each other, one picture being vertical and the other horizontal and the film F is passed through picture windows arranged at right angles.

Referring to Figure 2 of the drawings an arrangement is shown in which the pictures have the same relative positions. The paths of the beam of light are indicated in broken lines. O is again the objective, K the transparently silvered mirror formed on one side of a prism and F the film which is passed through the picture windows arranged at right angles. Of the beam of light coming from the objective a portion is reflected and gives an image B^1, the remainder is allowed to pass through the silvering and is reflected by one surface when passing through the prism so as to give an image B^{11} which is laterally reversed and is now congruent with the image B^1 being arranged above said image longitudinally of the film.

Having now particularly described and ascertained the nature of my said inven-

[*Price* 1/-]

tion and in what manner the same is to be performed, I declare that what I claim is:—

1. Improved apparatus for taking two-colour cinematographic pictures having a transparent mirror inclined at 45° for dividing the light, characterized by the feature that a single-width film is passed successively over windows arranged at right angles to one another, separate images being arranged one above the other on said film.

2. Improved apparatus for taking two-colour cinematographic pictures as claimed in claim 1 characterised in that a reversing prism is located in the path of the beam of light passing through the transparent mirror employed for dividing the light.

3. Improved apparatus for taking two-colour cinematographic pictures as claimed in claim 2 characterised in that one side of the prism is silvered to serve as a transparent mirror for dividing the light.

4. Apparatus for taking two-colour cinematographic pictures constructed and adapted to operate for the purpose and substantially as described herein and as shown in the drawings.

Dated this 20th day of July, 1929.

W. P. THOMPSON & Co.,
12, Church Street, Liverpool,
Chartered & Registered Patent Agents.

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FIG. 1.

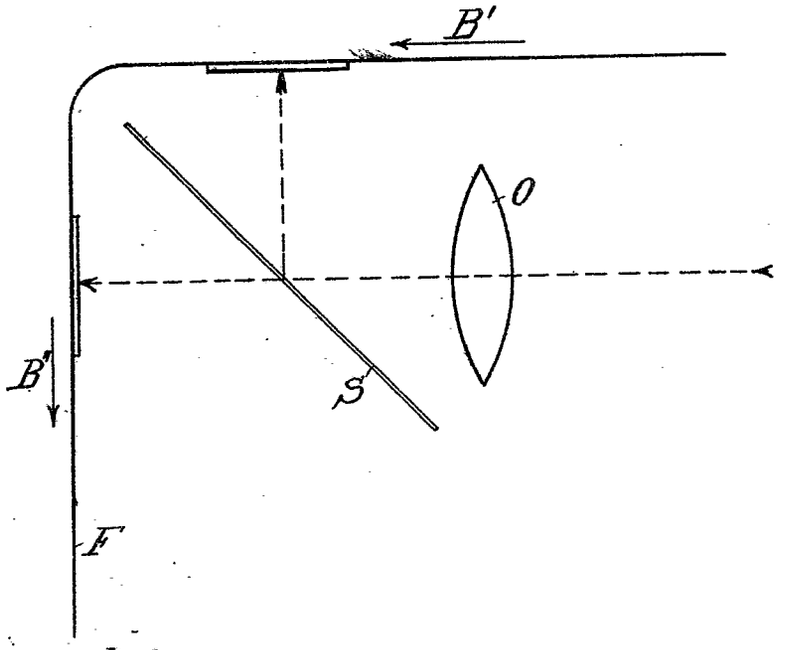
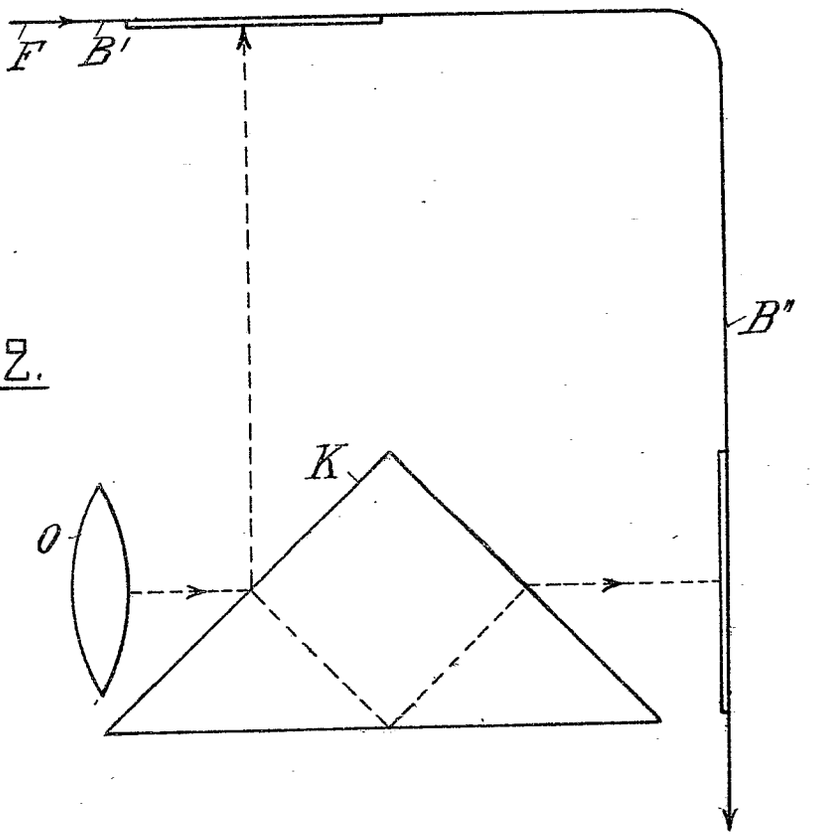


FIG. 2.



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