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## PATENT SPECIFICATION

507,314



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### COMPLETE SPECIFICATION

#### Improvements in or relating to Photographic Cameras

We, JOHAN STEENBERGEN, a Dutch subject, OTTO DIEBEL, a German citizen, HUGO FRAUENSTEIN, a German citizen, EMIL ENGLISCH, a German citizen, HERMANN SCHUBERT, a German citizen, and CONRAD KOCH, a German citizen, all trading as IHAGEE KAMERAWERK STEENBERGEN & COMPANY, of 24, Schandauer Strasse, Dresden A.19, Germany, 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:—

15 This invention relates to improvements in or relating to photographic cameras of the reflex type and more particularly to a finder lens or magnifying glass therefor.

20 According to this invention, we provide a finder lens or magnifying glass for a photographic camera of the reflex type comprising a transparent body of substantial height or thickness having an optically worked and matt under surface and on which is formed the image to be viewed and a spherical upper surface, the radius of which upper surface is substantially equal to the maximum thickness of the body of the said lens or glass.

30 The finder lens or magnifying glass is preferably firmly fixed in the body of the camera so as entirely to close the upper portion of the light chamber thereof.

35 In order that the invention may be fully understood, we shall now describe one embodiment thereof, by way of example, by reference to the accompanying drawings, in which:

40 Fig. 1 is a perspective view of a finder lens or magnifying glass constructed in accordance with the invention, and

Fig. 2 is a transverse sectional view of a reflex camera embodying the improved finder lens or magnifying glass.

45 Referring first to Fig. 1 of the drawing, it will be seen that the finder lens or magnifying glass comprises a transparent rectangular block 1 of substantial height or thickness, and which is formed with a spherical upper surface 2 and a ground or translucent plane bottom face 3, the radius of the upper surface 2 being substantially equal to the maximum thickness of the lens or glass 1.

55 Referring now to figure 2, it will be

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seen that the lens or glass 1 is disposed in the light shaft above the light chamber A of the camera. The said chamber A contains a focusing mirror 4 (shown in focusing position) which is hinged at 5, at the rear upper portion of the chamber and the mirror is retained in this non-picture taking or focusing position by means of a detent 6 which projects through an opening in one of the side walls of the light chamber. This detent automatically releases the mirror when withdrawn from engagement therewith in any suitable manner not shown in the drawing, and when the mirror is released it automatically swings on its hinge or pivot under tension of a spring S, which spring lifts the mirror to horizontal position with its front edge contacting with a pad or cushion 7. In focusing position the mirror prevents access of light rays to the front face of the film, and in the non-focusing position or picture-taking position, the mirror prevents access of light rays to the light chamber A from the light shaft above the said chamber.

The finder lens or magnifying glass 1, which, as above mentioned, is located in the light shaft above the light chamber A, is firmly fixed in any suitable manner to the body of the camera and entirely closes the upper portion of the said light chamber A. The plane bottom face 3 of the glass 1 forms the focusing screen on which the image is located and composed before the exposure of the film takes place and which co-operates with the focusing mirror 4, when the latter is in focusing position, to receive the image and transfer it to the focusing screen.

By peering at the spherical face 2 of the glass or lens 1 and due to the high degree of magnification of the glass, the image on the bottom face or focusing screen 3 appears as a substantial enlargement in the vision of the photographer, who is thereby assisted in the composition of the picture to be taken, and enabled readily to focus the image upon the translucent focusing screen 3 in sharp and well defined lines.

In the operation of focusing the camera the photographer peers down through the light-shaft located above the high-powered glass or lens 1 and this light-

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shaft is formed by the walls 8, 9 and 10 of a sectional automatically opening, hood, which covers and protects the magnifying glass or lens 1 when the said hood is folded down. This hood may be of any desired type and forms no part of this invention.

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. A finder lens or a magnifying glass for a photographic camera of the reflex type, comprising a transparent body of substantial height or thickness having an optically worked and matt under surface on which is formed the image to be viewed and a spherical upper surface, the radius of which upper surface is substantially equal to the maximum thickness of the body of the lens or glass.

2. A finder lens or magnifying glass

as claimed in Claim 1, wherein the said lens or glass is firmly fixed in the body of the camera and entirely closes the upper portion of the light chamber thereof.

3. The improved finder lens or magnifying glass for a photographic camera of the reflex type, constructed and arranged substantially as hereinbefore described and illustrated in the accompanying drawing.

4. A photographic camera of the reflex type having therein a finder lens or magnifying glass substantially as hereinbefore described and claimed in any of the preceding claims.

Dated the 1st day of February, 1939.

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Fig. 1.

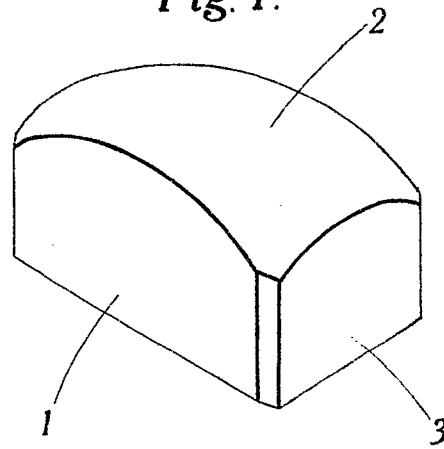
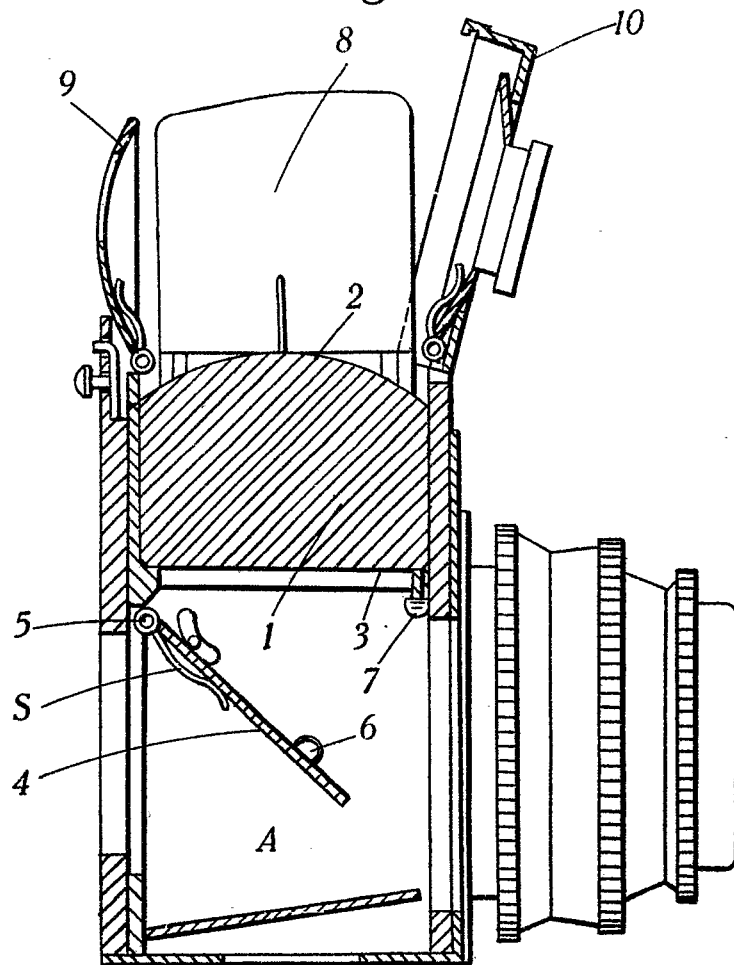


Fig. 2.



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