PATENT SPECIFICATION

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500,866

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(Divided out of No. 500,626).

Complete Specification Accepted: Feb. 13, 1939.

COMPLETE SPECIFICATION

Improvements in or relating to Lens Mounts for 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, trading as IHAGEE KAMERAWERK STEENBERGEN & COMPANY, of 24, Schandauerstrasse, 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:—

This invention relates to improvements in or relating to photographic cameras and more particularly to lens mounts therefor and has been divided from our Co-pending Application No. 22134/37 (Serial No. 500,626).

It has already been proposed to provide a removable lens mount for a camera comprising a base plate, carrying the lens and having holes therein adapted to accommodate a pair of studs on the camera, and a latching plate pivotally carried by the lens barrel and movable relatively to the base plate and the studs, which latch plate is formed with irregular-shaped holes which co-operate with the studs on the camera, on the displacement of the latch plate relatively to the base plate, to form a bayonet type connection retaining the base plate in engagement with the studs, an auxiliary spring-controlled catch, pivoted to the latch plate, being provided for locking the parts in this position. Such an arrangement provides only two fastening or securing points between the lens and the casing, which points are each of small area only.

Now, it is essential, if the optical axis of the lens is to form a straight line right up to the plane of the image, that the lens housing shall be flat on the wall of the camera casing and the principal object of this invention is to provide an improved detachable or removable lens mount which, whilst being simple in construction and cheap to manufacture, at the same time ensures that the lens is securely held in place and accurately positioned with respect to the camera casing.

According to this invention, we provide a lens mount for a photographic camera wherein the said mount includes a barrel having a plurality of elongated and preferably arcuate, flanges spaced circumferentially therearound, the said flanges being adapted frictionally to engage behind complementary elongated flanges formed on a ring fixedly secured to the camera casing, whereby the said mount may be easily attached to, and detached from, the camera, means also being provided for retaining the said flanges in frictional engagement.

The retaining means advantageously comprises a pin provided on the lens mount for engagement in a locking device, in the form of a pivoted latch, carried by the said attaching ring.

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 drawing, in which:—

Fig. 1 is a side elevation of the improved lens mount, showing the attaching ring in section.

Fig. 2 is a rear view thereof, showing the spaced flanges.

Fig. 3 is a front elevation of the attaching ring.

Fig. 4 is a detail view to a larger scale of the locking device shown in Fig. 3, and

Fig. 5 shows the lens mount in position on a camera casing.

Referring to the drawings, the lens mount will be seen to include, a main barrel 1 having a reduced cylindrical end 2, on which are arranged three integral radially extending, arcuate flanges 3. A knurled ring 4 is provided for grasping the mount and a pin 5 for engagement in a locking device to be hereinafter referred to.

Within the lens mount is carried the

iris-diaphragm 6, which is adjusted by turning a knurled ring 7. A further ring 8 is provided, which is turned to focus the lens for distance. 9 indicates a cap for closing the lens opening.

10 indicates an attaching ring for the lens mount 1, which is secured by screws 10^a against the exterior face A of the camera casing as shown in figure 5 and surrounds the opening in the front wall of the light chamber. This ring 10 is formed with an attaching flange 11 for the screws and on the exterior face of the ring is pivoted at 12 a locking device in the form of a spring actuated pawl 13 formed with a notch 14 in which engages the aforesaid pin 5 on the lens mount. A coiled-spring, not shown, tends to swing the notched end of the pawl towards the ring and finger or thumb pressure against the lower arm of the pawl will swing the notched end away from the ring.

Spaced at equidistant intervals on the inner periphery of the attaching ring 10 are three integral locking flanges 15, corresponding to and co-operating with, the flanges 3 on the lens mount and extending radially inwardly of the said ring. The number of co-operating flanges on the ring and the lens mount may of course be varied as desired.

To mount the lens, the barrel 1 is grasped by the ring 4 and the reduced end 2 thereof is inserted into the attaching ring 10, the flanges 3 passing through the spaces between the adjoining flanges 15. Then a quick short turn of the barrel 1 twists the flanges 3 behind and into line with the flanges 15.

In this position, that is with the flanges in register and in frictional engagement with one another, the pin 5 on the lens mount can be engaged by the notch 14 of the pawl 13 whereby the lens mount is securely locked to the attaching ring. The lens mount is locked in position by a right turn or twist. To detach the lens mount, the pawl 13, by pressure on its lower end, is first released from the pin 5 and then by a left turn, the two interlocking sets of flanges 15 and 3 are disengaged from one another and the lens mount can then be detached from the camera.

It will be appreciated that, by the provision, in accordance with our invention, of elongated flanges on the lens barrel which co-operate with, and, in the engaged position of the lens mount, are located behind, correspondingly shaped flanges on the attaching ring, a comparatively large surface of contact is provided, that is to say, the lens mount engages frictionally with the attaching ring throughout a relatively large portion of its circumference, which ensures that the lens mount is both securely held in place and accurately positioned with respect to the camera casing.

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 lens mount for a photographic camera wherein the said mount includes a barrel having a plurality of elongated, and preferably arcuate, flanges spaced circumferentially therearound, the said flanges being adapted frictionally to engage behind complementary elongated flanges formed on a ring fixedly secured to the camera casing, whereby the said mount may be easily and rapidly attached to and detached from the camera, means also being provided for retaining the said flanges in frictional engagement.

2. A lens mount as claimed in claim 1, wherein the said retaining means comprises a pin on the said mount adapted to engage a locking device, in the form of a notched latch, carried by the said attaching ring.

3. The improved detachable lens mount for a camera constructed and arranged substantially as hereinbefore described and illustrated in the accompanying drawings.

4. A photographic camera having a detachable lens mount constructed and arranged substantially as hereinbefore described and illustrated in the accompanying drawings.

Dated this 28th day of June, 1937.

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Fig. 1.

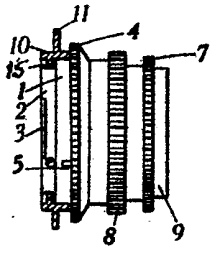


Fig. 2.

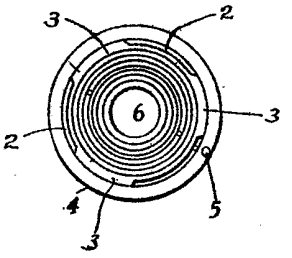


Fig. 3.

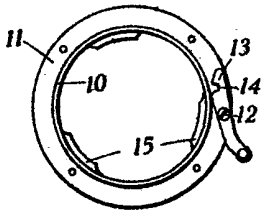


Fig. 4.

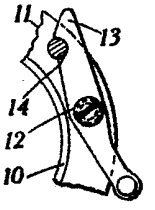
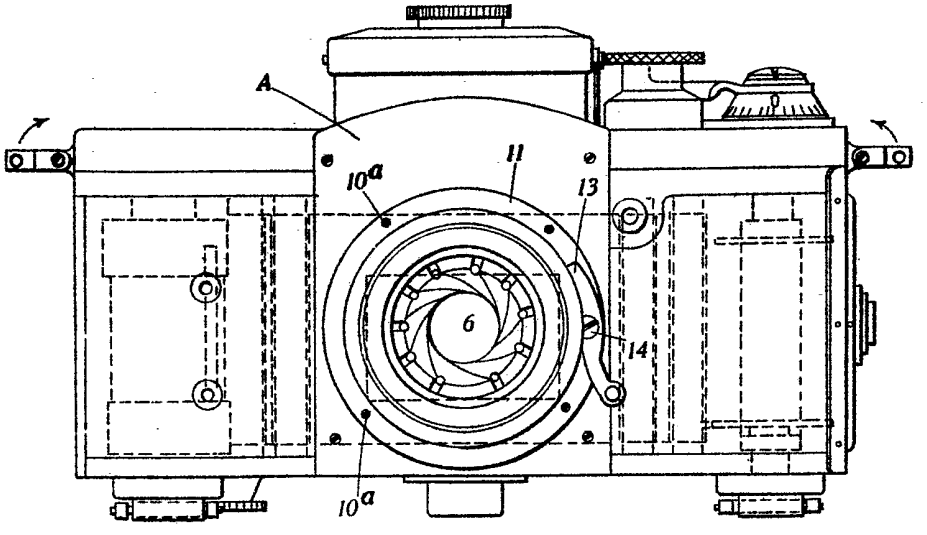


Fig. 5.



Malby & Sons, Photo-Lith