

PATENT SPECIFICATION (11)

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(54) CAMERA

(71) We, FRANKE & HEIDECHE GmbH, a German Body Corporate, trading as ROLLEI-WERKE FRANKE & HEIDECHE, of 196 Salzdahlumer Strasse, Braunschweig, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The present invention relates to a miniature roll film camera with an electric driving motor.

15 In such cameras the space required for the installation of the electric motor required is a major factor. Since, on the other hand, the driving parts of the camera for the film feed, shutter cocking, exposure control and others are mounted on a bar which is parallel to the wall of the camera housing and are required to be as close as possible to the latter, the system in which the electric driving motor with its usually cylindrical housing contour is positioned with its axis parallel to the said bar, is found to be the most space-saving system, and the adjacent wall of the housing may then have to be given a slight cylindrical convexity. A system of this kind, however, necessitates additional gearing parts for the purpose of transmitting the motor power from the motor shaft parallel with the bar to the camera driving shafts perpendicular to the plane of the said bar.

25 This input of gearing apparatus for the transmission system can be considerably reduced if the motor likewise is mounted in such a way that its shaft stands perpendicularly relative to the bar. As the motors which are customary and available for camera manufacture, with their cylindrical motor housings, nevertheless have a length appreciably in excess of the diameter, the motor cannot be installed in the aforementioned manner without recourse to a corresponding cylindrical covering cap for the projecting part of the motor in the wall of the housing.

30 The present invention enables this additional and generally inconvenient cap to be dispensed with by replacing it by an adjust-

ing knob which is required and used in any case.

According to the present invention there is provided a miniature roll film camera having a camera housing and an electric driving motor positioned with its axis perpendicular to the optical axis of the camera and extending through a wall of the camera housing, the projecting portion of the motor being covered by an adjusting knob which serves to adjust one or more of the camera functions independently of the motor. The knob can rest in a boring provided in the housing and coaxial with the motor. It is also possible, however, for the cylindrical motor housing to be used alone or additionally as a pivot pin for this rotary knob. In a preferred embodiment of the invention a cylindrical sleeve, which is connected with the rotary knob and by which the cylindrical motor housing serving as a pivot pin is surrounded over its entire length, can be used for transmitting the knob adjustment to actuating or adjusting elements within the camera housing. The knob may also contain a supplementary space serving to accommodate additional adjusting elements, such as potentiometers or graduated scales.

A constructional embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawing, wherein:—

Figure 1 shows an illustration of a miniature reflex camera with the new covering cap; and

Figure 2 is a part-section through the said knob.

The motor 1 is mounted perpendicularly relative to the optical axis of the camera and relative to a driving mechanism bar not shown in the drawing. The motor is intended to actuate the driving parts which are mounted on the bar. The bar is situated, as usual, parallel to the wall 2 of the camera. The camera drive is mainly situated in the upper part 3 of the camera, above the film cassette 4, which also contains the telescopic viewfinder with the eyepiece 5. That end of the motor which projects from the wall 2 of the camera is covered by a

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hollow adjusting knob 6 rotatable in the boring 7 of the wall 2 of the camera. Between the knob 6 and the motor 1 is a cylindrical sleeve 8, which may be affixed to the inner driving mechanism bar, i.e. occupies a fixed position in relation to the motor 1. In this case the cover 9 of the sleeve 8 may contain a resistor winding or potentiometer winding 10 with which the slider 13 affixed to the inside of the knob cover 12 intersects.

The sleeve 8 may alternatively be mounted in a rotatable manner on the bar or take the form of a rotatable sleeve 8 situated on the motor housing 1 serving as a pivot pin and be rigidly connected with the knob 6 by an adjusting screw 14. This enables the sleeve 8 to provide a direct mechanical connection between the knob 6 and parts of the driving mechanism bar. In this case the knob cover 12 may bear a further rotary knob 11 which is rotatable in relation thereto and which bears the resistor slider or potentiometer slider 13. The resistor winding or potentiometer winding 10 and the slider 13 are connected, by conductors not shown, and through or along the sleeve 8, with the corresponding switch parts or gearing parts of the camera. For the additional knob 11 the knob cover 12 may also be provided with a scale corresponding to the potentiometer function, e.g. the film speed scale.

WHAT WE CLAIM IS:—

1. A miniature roll film camera having a camera housing and an electric driving motor positioned with its axis perpendicular

to the optical axis of the camera and extending through a wall of the camera housing, the projecting portion of the motor being covered by an adjusting knob which serves to adjust one or more of the camera functions independently of the motor.

2. A camera as claimed in Claim 1, wherein the knob is mounted in a boring provided in the wall of the camera housing and coaxial with the motor.

3. A camera as claimed in Claim 1 or 2, wherein the cylindrical housing of the motor is used alone or additionally as a pivot pin for the rotary knob.

4. A camera as claimed in Claim 3, having a cylindrical sleeve which is connected with the rotary knob and by which the motor housing, serving as a pivot pin, is surrounded over its entire length, and which serves to transmit the knob adjustment to actuating or adjusting elements within the camera housing.

5. A camera as claimed in any one of Claims 1 to 4, having a supplementary space provided in the knob and serving to accommodate additional adjusting elements, such as potentiometers or graduated scales.

6. A camera substantially as described herein with reference to and as illustrated by the accompanying drawing.

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