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DRAWINGS ATTACHED

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- (72) Inventors DONALD MALCOLM HARVEY and
 EDWARD LOUIS STURM



(54) PHOTOGRAPHIC FLASHLIGHT DEVICE

(71) We, EASTMAN KODAK COMPANY, a Company organized under the Laws of the State of New Jersey, United States of America of 343 State Street, Rochester, New York 14650, United States of America, 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:—

The present invention relates to photographic flashlight devices, and to cameras incorporating such devices for use with a percussion-ignitable flashlamp unit (hereinafter referred to as "of the kind defined") comprising one or more flash lamps, the or each flash lamp having a primer which is deformed and/or displaced, when in a firing position, upon being struck by a striker to ignite its flashlamp, the striker forming a part of the unit or a part of the flashlight device; the term deformable or displaceable element of a flashlamp unit as used herein refers to the primer where the striker forms a part of the flashlight device and to the primer and/or striker where the striker forms a part of the flashlamp unit.

Various devices have been proposed for indicating the condition of an electrically ignited flash lamp received in the flash socket of a camera or separate flash holder. In these devices, circuit means are provided to complete electrically a signal circuit when the flashlamp in the circuit has a continuous ignition filament. Such devices are desirable because the condition of the lamp often is not evident to the operator.

It is an object of the present invention to provide a photographic flashlight device or a photographic camera with means for indicating the fired and/or unfired condition of a percussion-ignitable flashlamp unit of the kind defined.

In accordance with the present invention there is provided a photographic flashlight

device for receiving a percussion-ignitable flashlamp unit of the kind defined and locating a flash lamp in a firing position, wherein sensing means engageable with a deformable or displaceable element (as herein defined) of a flashlamp located in the firing position gives rise to an indication of the fired or unfired condition of the flashlamp.

According to the present invention there is also provided a photographic camera incorporating such a photographic flashlight device.

In the accompanying drawings:—

Fig. 1 is a perspective view of a photographic camera constructed according to one form of the present invention and having a built-in striker for successively striking the primers of a flashlamp unit having a plurality of percussion-ignitable lamps;

Fig. 1a is an elevation of a portion of the base of the flashlamp unit shown in Fig. 1 and the cooperating striker to fire the lamps;

Fig. 2 is a side elevation of a part of Fig. 1, to an enlarged scale, and with part of the camera housing broken away to show the lamp sensing means together with associated camera elements;

Fig. 3 is a view similar to Fig. 2 but showing the lamp sensing means in its sensing position;

Fig. 4 shows a modified form of means for indicating the fired or unfired condition of the lamps in a camera having a striker of the form shown in Figs. 1 to 3;

Fig. 5 shows a further modified form of indicating means in a camera having a striker of the form shown in Figs. 1 to 3;

Fig. 6 is a perspective view of a photographic camera constructed in accordance with the present invention and for use with a flash lamp unit having a separate, pre-energized striker for each lamp;

Fig. 7 is an elevation of the mechanism of the camera shown in Fig. 6;

Fig. 8 is a view similar to Fig. 7 but

with the parts shown in the position they assume after firing a flashlamp;

Fig. 9 is a view similar to Fig. 7 but with the parts in the position they assume when depressing the shutter release with a fired lamp in the firing position;

Fig. 10 is an elevation of the signal means shown in Fig. 9;

Fig. 11 is an elevation of an alternative form of signal means for the camera shown in Figs. 6 to 10;

Fig. 12 is an elevation of the shutter release and shutter driver shown in Fig. 1; and

Fig. 13 is a section taken on the line I—I of Fig. 7.

Because photographic cameras are well known, the present description will be directed in particular to elements forming part of, or co-operating more directly with, the indicating means of the present invention, camera elements not specifically shown or described herein being understood to be selectable from these known in the art.

With reference to Fig. 1, there is shown a photographic roll film still camera comprising a light tight camera body 21 having a picture-taking axis on which are located the usual lens and film plane for holding a frame of a roll of light-sensitive film (not shown). A camera shutter mechanism and diaphragm (not shown), are also provided to expose a frame of film located at the film plane, and a viewfinder 22 is provided to show the scene to be recorded.

Accessibly located in the top wall of the camera body 21 is a socket 23 designed to receive a percussion-ignitable flashlamp unit 24 containing a plurality (four of percussion-ignitable flashlamps 25. The flashlamps 25

are mounted in a vertical position about a vertical axis of rotation on a substantially square base. Depending from the base of each lamp 25 is an exposed element or tube 26 containing a percussion-ignitable material

that burns when the tube 26 is struck by a high energy percussion striker in the camera. The end of each percussion tube 26 is free to be deformed, as shown at 26a in Fig. 1a, after engagement by the percussion striker.

Individual light reflectors are positioned behind each lamp 25 and an overall light transmitting protective cover is provided. The package base defines the four lamp sides and includes a central connector post 28 that is

received in an opening of socket 23 in any one of four predetermined positions in which one of the lamps 25 is in the operative or firing position. Percussion tube ends 26 are

received in a continuous annular groove 29 for engagement with the camera striker when in the firing position. Any known flashcube indexing mechanism may be employed for successively locating the lamps in the firing position.

A lamp firing mechanism comprises a striker member 35 which, when released, strikes the

percussion tube 26 of a flashlamp 25 located in the operative position.

For flash operation, illumination is synchronized with film exposure by a release member 31. When the body release 31 is fully depressed, the striker member 35 strikes percussion tube 26 with a high energy impact to deform the tube and thereby fire the lamp in timed relation with shutter operation, for instance as described in Letters Patent No. 1240784.

A sensing lever 37 (Fig. 2) is pivotable about an axis 38 and includes a sensing pin 39 that selectively is moved toward the primer tube 26 of the lamp firing position to sense the condition of the tube 26. Although a lamp 25 may be faulty for other reasons, the presence of a deformed tube is a good indication that the lamp will not fire.

Sensing lever 37 is biased to rotate in a clockwise direction (Figs. 2 and 3) by means of a spring 40 to the sensing position. However, sensing lever 37 normally is located in the inoperative position shown in Fig. 2 by means of an extension arm 41 of the release member 31, but is moved to the sensing position to engage the primer tube 26, as shown in Fig. 3, as the release member 31 is depressed. When the camera is operated by depressing the release member 31, the arm 41 enables the sensing lever 37 to assume its sensing position prior to the member 31 reaching its fully depressed position, as illustrated by 41a, in which the shutter and lamp firing mechanisms are actuated.

Further, the sensing lever 37 is provided with a flag 45 that co-operates with the viewfinder 22 to indicate the lamp condition. Thus, when the sensing lever 37 is in the location sensing a tube 26 that has not been deformed, as shown in solid lines in Fig. 3, the flag 45 is out of the field of view 22a, designated by dashed lines, of viewfinder 22. However, when the tube 26 has been deformed, the lever 37 is located in the position shown in dotted lines, and the flag, which is shown in dotted lines and indicated by reference 45a, is visible in the viewfinder. The flag 45 may contain a message such as "used lamp" or it may be specially coded to be readily noticed by the operator as the body release 31 is partially depressed.

In order to operate the camera, the connector post 28 of a multilamp flash unit 24 is placed in the socket 23 with a percussion-ignitable flash lamp 25 in the operative position.

If the camera otherwise is ready for operation with augmenting flash, the operator aims the camera in the desired direction and depresses the body release member 31. This motion initially permits movement of the sensing lever 37 to its sensing position while the member 31 is in a partially depressed position. The camera shutter and striker member

35 are actuated when the release 31 is fully depressed.

If the lamp 25 in the firing position has not been fired, the sensing lever 37 assumes the solid line location shown in Fig. 3, and the signal flag 45 does not appear in the viewfinder. In that case, the operator continues to depress release 31 to its fully depressed position to operate the camera and fire the lamp. If, however, sensing lever 37 is moved to the location in which it senses a deformed tube 26, the flag 45 appears in the viewfinder to warn the operator. The operator then may remove his finger from release 31 before the camera is operated and replace the lamp 25 by manually advancing the flash unit to move another lamp 25 into the flash operation position. After all four lamps in the inserted unit 24 have been sensed as having been used, the unit is removed or ejected in any known manner and another unit attached.

In a second embodiment of the invention as shown in Fig. 4, a sensing lever 50 which operates in the same manner as the lever 37, controls an electrical switch in a sensing circuit containing an electrically actuated signal. The switch is composed of a fixed switch element 51 and a movable switch element 52 that is engageable with the element 51. Element 52 cooperates with an end 53 on the lever 50, which normally is in the solid line position. If the lever 50 moves to its sensing position 50a and engages an undeformed primer tube end 26, the switch element 52 does not engage element 51. However, if lever 50 moves the additional amount to location 50b, in which it senses a deformed primer tube 26, end 53 causes the switch to close to complete an electrical signal circuit. The circuit includes an electrical energy source 55 and an electrical signal lamp 56 visible in the viewfinder to indicate to the operator that an unfired lamp is not in the firing position.

The alternative embodiment of Fig. 5 shows an electrical circuit that is not responsive to the camera release. In this embodiment, the primer tube is engageable directly by a resilient switch element 61 that is biased toward and engages a second switch element 62 only when the primer tube is deformed. In that case, the operator can see the lamp condition by means of a signal lamp 63 directly or through the viewfinder.

As an alternative to the arrangement shown in Figs. 1 to 3, and Figs. 4 and 5 the flag may be moved to a viewing position and the signal means energized when an unfired lamp rather than a fired lamp is in the operative position. Alternatively, when the lamps are in a multilamp unit, separate sensing means for each lamp may be provided to sense all of the lamps of the unit at the same time, in which case the signal means visible to the

operator can indicate which of the lamps are used.

Referring now to Fig. 6, the camera 101 has a shutter release member 102, a film advance lever 103, a viewfinder 105 and a flash lamp socket 106 of known types. The camera also has an external housing 107 which is provided with an actuator opening 108 for the purpose hereinafter described. Also shown in Fig. 6 is a percussion-ignitable flash unit 110 of the type described in more detail in our copending Application No. 49434/69 (Serial No. 1287293). Briefly, the unit 110 comprises a plurality of percussion-ignitable flash lamps 112 with primer tubes 113 and individual striker elements 114 which are restrained by means of lugs 116 in a pre-energized condition over actuating sites 115, as shown. The unit 110 is provided with a base (not shown) of known construction which is adapted to be attachably received and supported in the socket 106.

Referring now to Figs. 7 and 12 it can be seen that shutter release member 102 is an integral portion of shutter release lever 120 which is guided by means of slots 121 for sliding movement within the housing 107 on pins 122 which extend from the camera frame. The shutter release lever 120 is biased upwardly by means of a spring 123 and has formed therein a retaining arm 124 with an engaging edge 125 and a stop lug 126, the purpose of which will be hereinafter described.

A shutter driver 130 is shaped and located for engagement in its cocked position by the edge 125 of the shutter release lever 120 and is guided for sliding movement on pins 131 by means of slots 132 formed therein. The shutter driver is biased for movement to the right, as viewed in Fig. 7 and 12, by means of a drive spring 136, which, upon release of the driver 130 by the release lever 120, moves the driver so that a lug 137 thereof can operate the camera shutter (not shown) in a known manner. The shutter driver 130 also includes an extension 138 which cooperates with a ramped projection 143a on a latch member 140 as hereinafter described.

The latch member 140 is pivotally mounted on a pin 141 and is urged in a clockwise direction by means of a spring 142. The latch member includes a release arm 143 terminating in the ramped projection 143a and a latching arm 144 having a latching finger 145.

Latching member 140 is located in the camera in a position for retaining a hammer 150 in a cocked position against rotation in a clockwise direction under the bias of a spring 151. The hammer 150 is rotatably mounted on a shaft 152 and includes an impact arm 153 and a cocking arm 154.

Also mounted on the shaft 152 is a lever 160 which includes sensing and actuating arm 161 and a control and signal arm 162.

The arm 161 is formed with a finger 163, aligned for movement into and through the actuating opening 108 of the camera housing, and an extension 164 having an outwardly protruding rest pad 165. The control arm 162 is connected to a blocking rod 166 which is slidably mounted in the camera frame and extends to a location adjacent to the stop lug 126 on the shutter release lever 120. The lever 160 is lightly biased for rotation in a clockwise direction about the shaft 152 by means of a spring wire 170.

The spring wire 170 and its associated elements can best be seen by referring to Fig. 10 and include a fixed end 171 and tail portion 172. The restoring forces in the spring 170 urge free portions of the spring 170 towards the left hand side. When the tail 172 of the spring moves to the left it moves an attached end 174 of a flag 175 in that direction, causing the flag to rotate in a clockwise direction as viewed in Fig. 10 and into the viewfinder 105 of the camera.

A crank 180 is rotatably mounted on a pin 181 and is biased in a clockwise direction by means of a spring 182. The crank has an input arm 183 with a pin 184 thereon located to cooperate with shutter release lever 120 and an output arm 185 with an end 186 that is urged against the pad 165 of the member 160 by the spring 182 with a sufficient force to hold the signal arm 162 of the member 160 against a stop 205, overriding the bias of spring 170 so long as the end 186 rests on the pad 165.

The operation of the parts of the apparatus thus far described with reference to Figs. 6 to 10 and 12 will now be explained. When the shutter release lever 120 is depressed slightly as shown in Fig. 7, the pin 184 of the crank 180 is contacted by the lever 120 and pivoted in a counterclockwise direction against the bias of the spring 182. This movement of the crank 180 lifts the end 186 from the pad 165 and allows the spring 170 to move and rotate the lever 160 slightly in a clockwise direction, thus moving the finger 163 through the actuating opening 108 of the camera housing, the access site 115 of an inserted flash unit 110 and into contact with a pre-energized striking element 114 that is located over the site 115. The force of the spring wire 170 is not sufficient to dislodge the pre-energized striker 114 so that movement of the sensing arm 160 is stopped by the striker 114 until the shutter release lever 120 has been further depressed to release the shutter driver 130. It will be seen from Fig. 7, that when the lever 160 has rotated to the position in which the finger 163 touches the striker 114, the spring end 172 has not moved sufficiently to move the warning flag 175 into the viewfinder 105. Also, it can be seen that in this position of lever 160 the blocking rod 166 connected to the control

arm 162 has not moved sufficiently to prevent further movement of the shutter release lever 120.

The shutter release lever 120, being free for further downward movement, therefore, can release the shutter driver 130. During the shutter actuating movement of the shutter driver 130 towards the right, the extension 138 contacts and rotates the crank 140 in a counterclockwise direction to release the hammer 150. Upon release, the hammer 150 quickly moves under the bias of the spring 151 to strike the extension 164 of the member 160, thereby causing the finger 163 to dislodge the striker 114 to fire the flash lamp 112. At this state of operation, the parts have moved to the positions shown in Fig. 8.

Referring now to Fig. 9, the camera mechanism is shown at the stage of movement of shutter release lever 120 immediately prior to its release of the shutter driver 130, but in this instance with a flash unit 110 having a de-energized striker 114. It will be seen that because the striker 114 is not over the access site 115, the sensing finger 163 is free to move further upward allowing a further rotation of the lever 160 prior to release of the shutter driver 130. This further rotation of the lever 160 in turn allows the end 172 of the spring 170 to move further towards the left, moving the warning flag 175 into the viewfinder 105. Also, the further rotation in a clockwise direction of the lever 160 causes the blocking arm 166 to move further towards the left and into a blocking position beneath the stop lug 126 of the shutter release lever 120. The shutter release, therefore, cannot move further downward so that the shutter driver 130 cannot be released.

Thus, the picture-taking operation of the camera has been prevented in response to a sensing by the lever 160 that the striker 114 of the flash unit 110 was not operative to effect flash. It will be appreciated that either the linkage, including rod 166, for controlling the picture-taking operation or the signal linkage, including warning flag 175, can be used independently in photographic apparatus for indicating the condition of the striker. In using the signal linkage without the control linkage, the operator can merely partially depress shutter release 120 to determine if the flash unit is operative and, if no signal appears, continue depressing the shutter release to make a photographic flash exposure.

If the control linkage is used independently, the condition of the inserted flash unit is indicated by the fact that the shutter cannot be released.

In Fig. 11, the spring 170' is used to signal electrically a sensed lamp condition. As shown in Fig. 11, the end 172' of spring 170' forms one contact of a circuit from an electrical source 173 to a signal lamp 175' in the viewfinder 105. When the finger 163 of

lever 160 has moved past the point where it is contactable with an energized striker 114 of flash unit 110, the contact 172' closes the circuit by contacting the other contact 176 of the circuit and the lamp 175' is energized to warn the operator that the flash unit is not operative. The position of the contacts could of course be arranged to maintain the lamp 175' illuminated when the flash unit is operative and not illuminated when the lever 160 has moved to the position shown in Fig. 9, indicating an inoperative condition in the flash unit. The signal flag 175 shown in Fig. 10 can be similarly modified to signal an operative rather than inoperative flash unit condition.

Referring now to Figs. 7 and 13, the control mechanism for lever 160 will be described. In Fig. 7, the socket 106 extends inside the camera housing 107 to a location adjacent to a control lever 190. The socket 106 is cored and rotatably mounted on a camera frame post 200 which is also cored. The socket includes a support stud 201 adapted to fit within the hollow post (not shown) on the base of an inserted flash unit of the type described in the aforementioned Application No. 49434/69 (Serial No. 1287293). A tee-bar 202 is supported in stud 201 for vertical sliding movement and contact with a plunger rod 203 within the cores of socket and camera frame post 200. The bottom end of the rod 203 is positioned for contact with an actuating arm 191 of the lever 190. The lever 190 is rotatably mounted on a pin 192 and urged in a clockwise direction by means of a spring 193. The control lever 190 also includes a control arm 194 having latch portion 195 formed thereon.

As shown in Fig. 13, when a flash unit 110 is mounted in the socket 106, the tee-bar 201 moves downwardly causing the plunger 203 to move the lever 190 in a counterclockwise direction against the bias of the spring 193 and release the arm 161 of the lever 160. In this condition with the arm 161 free, the sensing and control mechanism described above can operate as explained above in response to used or unused flashlamps in the inserted unit. However, when no flash unit is in socket 106, the spring 193 moves the lever 190 in a clockwise direction against the post 197 and the latch 195 prevents operation of the sensing lever 160, thereby preventing the finger 163 from projecting through the housing opening 108 when no lamp unit is inserted in the socket.

During film advancing movement of the lever 103, a cocking lever 209, which is shown in Fig. 7 and is operatively associated with the film advance lever 103 in a known manner, is moved to the left causing a drag link 210 to move the hammer 150 from the position shown in Fig. 9 back to its latched position shown in Fig. 7. The remain-

ing parts are returned to their original positions by the spring 123 moving the shutter release lever 120 to its original position and by the forces of their individual positioning springs. The shutter driver 130 is cocked and the socket 106 indexed in any known manner during the film advance and the camera is again ready for another cycle of operation.

WHAT WE CLAIM IS:—

1. A photographic flashlight device for receiving a percussion-ignitable flashlamp unit of the kind defined and locating a flashlamp in a firing position, wherein sensing means engageable with a deformable or displaceable element (as herein defined) of a flashlamp located in the firing position gives rise to an indication of the fired or unfired condition of the flashlamp.

2. A photographic flashlight device according to Claim 1, wherein the sensing means causes actuation of a signal flag to indicate the fired or unfired condition of an inserted flashlamp unit.

3. A photographic flashlight device according to Claim 1, wherein the sensing means causes energisation of an electrical signal means, such as a lamp, to indicate the fired or unfired condition of an inserted flashlamp unit.

4. A photographic flashlight device according to Claim 1, 2 or 3, wherein the sensing means comprises a movably mounted lever which is spring urged into engagement with a deformable or displaceable element of an inserted flashlamp unit.

5. A photographic flashlight device according to Claims 2 and 4, wherein the signal flag is mounted for movement in response to movement of the lever.

6. A photographic flashlight device according to Claim 5, wherein the signal flag is connected to the lever.

7. A photographic device according to Claim 5, wherein the signal flag is carried by one limb of a spring urging the lever into engagement with the deformable or displaceable element of an inserted flashlamp unit.

8. A photographic flashlight device according to any one of the preceding Claims 1 to 5 or Claim 7, including means for controlling operation of the sensing means in response to attachment and detachment of a flashlamp unit.

9. A photographic camera incorporating a photographic flashlight device according to any one of the preceding claims.

10. A photographic camera according to Claim 9 as appendant to Claim 4, 5 or 6, wherein the sensing lever is normally held out of engagement with the deformable or displaceable element of an inserted flashlamp unit by means of a member connected to



lever 160 has moved past the point where it is contactable with an energized striker 114 of flash unit 110, the contact 172' closes the circuit by contacting the other contact 176 of the circuit and the lamp 175' is energized to warn the operator that the flash unit is not operative. The position of the contacts could of course be arranged to maintain the lamp 175' illuminated when the flash unit is operative and not illuminated when the lever 160 has moved to the position shown in Fig. 9, indicating an inoperative condition in the flash unit. The signal flag 175 shown in Fig. 10 can be similarly modified to signal an operative rather than inoperative flash unit condition.

Referring now to Figs. 7 and 13, the control mechanism for lever 160 will be described. In Fig. 7, the socket 106 extends inside the camera housing 107 to a location adjacent to a control lever 190. The socket 106 is cored and rotatably mounted on a camera frame post 200 which is also cored. The socket includes a support stud 201 adapted to fit within the hollow post (not shown) on the base of an inserted flash unit of the type described in the aforementioned Application No. 49434/69 (Serial No. 1287293). A tee-bar 202 is supported in stud 201 for vertical sliding movement and contact with a plunger rod 203 within the cores of socket and camera frame post 200. The bottom end of the rod 203 is positioned for contact with an actuating arm 191 of the lever 190. The lever 190 is rotatably mounted on a pin 192 and urged in a clockwise direction by means of a spring 193. The control lever 190 also includes a control arm 194 having latch portion 195 formed thereon.

As shown in Fig. 13, when a flash unit 110 is mounted in the socket 106, the tee-bar 201 moves downwardly causing the plunger 203 to move the lever 190 in a counterclockwise direction against the bias of the spring 193 and release the arm 161 of the lever 160. In this condition with the arm 161 free, the sensing and control mechanism described above can operate as explained above in response to used or unused flashlamps in the inserted unit. However, when no flash unit is in socket 106, the spring 193 moves the lever 190 in a clockwise direction against the post 197 and the latch 195 prevents operation of the sensing lever 160, thereby preventing the finger 163 from projecting through the housing opening 108 when no lamp unit is inserted in the socket.

During film advancing movement of the lever 103, a cocking lever 209, which is shown in Fig. 7 and is operatively associated with the film advance lever 103 in a known manner, is moved to the left causing a drag link 210 to move the hammer 150 from the position shown in Fig. 9 back to its latched position shown in Fig. 7. The remain-

ing parts are returned to their original positions by the spring 123 moving the shutter release lever 120 to its original position and by the forces of their individual positioning springs. The shutter driver 130 is cocked and the socket 106 indexed in any known manner during the film advance and the camera is again ready for another cycle of operation.

WHAT WE CLAIM IS:—

1. A photographic flashlight device for receiving a percussion-ignitable flashlamp unit of the kind defined and locating a flashlamp in a firing position, wherein sensing means engageable with a deformable or displaceable element (as herein defined) of a flashlamp located in the firing position gives rise to an indication of the fired or unfired condition of the flashlamp.

2. A photographic flashlight device according to Claim 1, wherein the sensing means causes actuation of a signal flag to indicate the fired or unfired condition of an inserted flashlamp unit.

3. A photographic flashlight device according to Claim 1, wherein the sensing means causes energisation of an electrical signal means, such as a lamp, to indicate the fired or unfired condition of an inserted flashlamp unit.

4. A photographic flashlight device according to Claim 1, 2 or 3, wherein the sensing means comprises a movably mounted lever which is spring urged into engagement with a deformable or displaceable element of an inserted flashlamp unit.

5. A photographic flashlight device according to Claims 2 and 4, wherein the signal flag is mounted for movement in response to movement of the lever.

6. A photographic flashlight device according to Claim 5, wherein the signal flag is connected to the lever.

7. A photographic device according to Claim 5, wherein the signal flag is carried by one limb of a spring urging the lever into engagement with the deformable or displaceable element of an inserted flashlamp unit.

8. A photographic flashlight device according to any one of the preceding Claims 1 to 5 or Claim 7, including means for controlling operation of the sensing means in response to attachment and detachment of a flashlamp unit.

9. A photographic camera incorporating a photographic flashlight device according to any one of the preceding claims.

10. A photographic camera according to Claim 9 as appendant to Claim 4, 5 or 6, wherein the sensing lever is normally held out of engagement with the deformable or displaceable element of an inserted flashlamp unit by means of a member connected to



a shutter release member, initial actuation of the shutter release member allowing the sensing lever to engage such element under spring action.

5 11. A photographic camera according to Claim 10, including a striker which, upon further actuation of the shutter release member, strikes a deformable element of an inserted flashlamp unit.

10 12. A photographic camera according to Claim 9 as appendant to Claim 4, 5, 7 or 8, having a socket for receiving a multi-lamp, flashlamp unit having a primer and pre-energised striker associated with each lamp, 15 wherein one end of the sensing lever is formed with a finger which, upon initial actuation of a shutter release member, is engageable under spring action with an aligned striker of an inserted unit.

20 13. A photographic camera according to Claim 12, wherein further actuation of the shutter release member displaces a latch from a pivotally mounted hammer to allow the hammer to strike the sensing lever, under 25 the action of a spring, so that the finger releases the aligned striker to fire its lamp.

30 14. A photographic camera according to Claim 13 as appendant to Claim 8, wherein the means for controlling operation of the sensing means in response to attachment and detachment of a flashlamp unit comprises a slidably mounted rod which is displaceable by an inserted unit to release a second latch thereby allowing the sensing lever to

move its finger under spring action into engagement with an aligned striker upon initial actuation of the shutter releasing member.

15. A photographic camera according to Claim 9 as appendant to Claim 1, wherein the sensing means controls actuation of a blocking member to prevent a shutter releasing operation when the sensing member engaging operation when the sensing member engages a deformed or displaced element of 40 an inserted flashlamp unit. 45

16. A photographic camera according to Claims 14 and 15, wherein the blocking member comprises a rod which is connected to the sensing lever and is disposed in the path of 50 movement of a part of the shutter release member, in the shutter releasing direction, when a striker of an inserted unit is not engaged by the finger of the sensing lever.

17. Photographic cameras according to Claim 9 as appendant to Claim 1, constructed substantially as hereinbefore described with reference to, and as shown in Figs. 1 to 5 55 of the accompanying drawings.

18. Photographic cameras according to Claim 9 as appendant to Claim 1, constructed substantially as hereinbefore described with reference to, and as shown in, Figs. 60 6 to 13 of the accompanying drawings.

L. A. TRANGMAR, BSc. CPA,
Agent for the Applicants.