

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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(54) PHOTOGRAPHIC APPARATUS

(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") having a primer which is deformed and/or displaced upon being struck by a striker to ignite the 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. Such flashlamp units may comprise a single lamp or a plurality of lamps, each of which is provided with its own primer and, in some cases, with its own striker which may be pre-energised.

In accordance with the present invention there is provided a photographic flashlight device or camera comprising a holder for receiving a percussion-ignitable flash lamp unit of the kind defined and locating a deformable or displaceable element (as defined herein) of the lamp unit in a firing position, an actuating member movable toward a deformable or displaceable element located in the firing position and means responsive to the locating of such element in the firing position for moving the actuating member into non-firing engagement with the element.

In the accompanying drawings:

Fig. 1 is a perspective view of a percussion-ignitable flashcube received on a [Price 25p]

camera with part of the camera broken away to illustrate various features of the present invention;

Fig. 2 is an exploded perspective view, to an enlarged scale, of the flashcube and socket therefor shown in Fig. 1;

Fig. 3 is a partial view of a flashcube with parts broken away to show the pre-energised striker of a flashcube usable with the present invention;

Fig. 4 is a schematic view of a cube sensing and actuating mechanism constructed in accordance with the present invention;

Fig. 5 is a partial cross-section, to an enlarged scale, of a flashcube and a portion of the actuating and sensing mechanism of Fig. 4, illustrating the manner in which the sensing member is cammed to a retracted position upon cube rotation; and

Fig. 6 is a schematic view of a mechanism responsive to the actuating and sensing mechanism of Fig. 4, for automatically adjusting or setting the camera diaphragm for proper exposure when a flashcube is positioned on the camera.

As shown in Fig. 1, a camera comprises a casing 10 supporting an objective 12, a shutter release member 14, a film winding member 16 and a viewfinder 18. As will be described more fully hereinafter the camera is adapted to receive a percussion-ignitable flashcube 20 which is fireable synchronously with operation of the camera shutter by means of a mechanism 22 illustrated in Fig. 4.

The shutter release member 14 has a portion 24 accessible from the camera exterior (Fig. 1), and an elongated portion 26 (Fig. 4) including a blocking surface 28. The portion 26 is mounted within the camera casing for movement, in response to depression of shutter release member 14, between a first or latching position, and a second or releasing position for effecting actuation of the shutter and possibly also various other camera mechanisms as will be described more fully hereinafter.

A shutter 30 is of the single blade impact type and includes a blade 32 which is

mounted in the camera for pivotal movement about a stud 34, and is normally maintained in a closed position by means of a hairpin spring 35. A first portion of blade 32, on one side of the stud 34, is adapted to cover the camera aperture when the shutter is in its closed position, while a second portion of the blade, on the other side of pivot 34, is provided with a striking surface 36 adapted to be struck by a shutter impacting member which drives the shutter blade in a clockwise direction, against the resilient action of the spring 35, to open the shutter and expose film in the camera for a proper exposure period, after which the spring 35 returns the blade to the closed position.

Winding mechanism 16, is more clearly disclosed in our copending Application No. 39284/70. Serial No 1323941. Briefly, however, the winding mechanism comprises a handle 38 engageable from the camera exterior and adapted to be coupled or connected to a film take-up spool for advancing or winding film in the usual manner. Within the camera the winding mechanism includes means (not shown) for setting or indexing various camera operating mechanisms, such as the shutter driver and flashcube, in response to winding of the film, as described more fully in the aforementioned application.

As shown in Fig. 1, the viewfinder 18 comprises a front window 40 and a back window 50 spaced therefrom to permit a translucent warning flag 182 to be moved between the two windows.

Referring now to Figs. 2 and 3, the flashcube 20 illustrated therein comprises a base 44 for supporting a plurality of percussion-ignitable flash devices, a reflector 50 for each device, a transparent cover 52, and a support means 54. Each flash device includes a flashlamp 46 and a firing element 48 positioned over openings 82 in the cube base. On an upper face of the base, means are provided for securely supporting each of the flashlamps 46 and firing elements 48; as shown in Fig. 3, these means comprise a circular bore 58 for receiving a portion of the flashlamp and slots 60 for receiving a knee portion 62 of the firing element.

Each of the four flashlamps 46 comprises a hermetically sealed envelope 64 containing combustible material such as a zirconium foil in a combustion supporting atmosphere such as oxygen. A lower portion of envelope 64 is sealed around an elongated deformable tube 66 having a circular cross section and containing in spaced relation therein an anvil 68. A percussion-ignitable material 70 is placed in the space between the tube 76 and the anvil 78. The percussion-ignitable material 70 is

fired when firing element 48 strikes the deformable tube 66. Upon such firing, the heat energy generated by ignition of the percussion-ignitable material 70 deflagrates and is directed upwardly through the tube and into the envelope 64 to initiate combustion of the zirconium foil and thereby to fire the flashlamp.

The firing element 48 is shown in Fig. 3 and comprises a striker member 74, an upwardly extending central portion adapted to be torsionally stressed when the firing element is in the energized position, the knee portion 62 for supporting the firing element on the cube base, and an elongate leg 76 including a bent end portion 78 defining a stop for maintaining the striker member in the energized position over opening 82.

The support means 54 is located on a lower face 83 of the base 44 and includes a channel member 84 having an opening 86 of generally square cross section and an external surface 88. At each of the corners of the surface 88 there is provided a rib 90 having a tapered lower portion 92 and an upper portion 94 having sides, generally perpendicular to face 83 of the cube base. Also provided on external surface 88 and between the ribs 90 are recessed portions 96 having inclined surfaces 98 which are adapted to cooperate with a socket latching means.

In Figs. 3 and 4, there is shown a socket comprising a cylindrical member 100, a socket base 102, and a wall 104 extending upwardly therefrom to define a socket exterior surface 106 and an interior surface 108. Extending upwardly from socket base 102 are a post member 110 adapted to be received in opening 86 of the cube channel member 54, and a plurality of flexible fingers 112 adapted to cooperate with the surfaces 98 on the external surface 84 of the channel member 54. Also extending in substantially the same direction as post member 110 and fingers 112 are splines 114 adapted to cooperate with the ribs 90 to accurately and securely maintain the cube in the socket. Abutments 130 are provided on the socket 100 to cooperate with socket indexing means (not shown) in known manner.

Upon inserting a flashcube into the socket, the post member 110 in the socket is received in the opening 86 of the cube channel member 54, and the tapered lower portions 92 of ribs 90 are received within the socket splines 114 to initially position the cube. As the cube is advanced toward its operative position in the socket, the upper portions 94 of ribs 90 engage and closely cooperate with the internal surfaces of the socket to accurately position the cube. As the cube closely approaches the operative

position, the flexible fingers 112 engage the inclined surfaces 98 to securely but releasably hold the cube in the socket.

As shown in Fig. 2, the post member 110 includes a hollowed-out portion 120 which is adapted to slidably receive a T-bar 121 having a body portion 122 and an upper end portion 124 including flanges 126. In an assembled condition, flanges 126 extend into the socket interior where they will be engaged by the cube channel member 54 when the cube is positioned in the socket. The T-bar is resiliently biased to a raised position and is pushed downwardly to a retracted position upon positioning of a cube in the socket to adjust certain camera mechanisms.

Referring now more particularly to Figs. 4 and 5, the flashlamp sensing and firing mechanism 22 comprises cube sensing means illustrated as the T-bar 121, latching and setting lever 132, firing element sensing and actuating means including a pivotal member 134, indicating flag 136, a pivotally mounted lever 138, and a driving member 140.

The T-bar includes a lower portion 142 adapted to be slidably mounted in the camera and is resiliently urged to the raised position by engagement with the latching and setting element 132, but is engaged and moved to its retracted position when a flashcube is positioned on the camera.

The latching and setting lever 132 is pivotally mounted on the camera, for example, on a mechanism plate or camera casing (not shown), by means of a stud 144 received through an opening in a central portion 148 of the latching and setting lever. On one end, the lever 132 is provided with an abutment 150 for engaging the T-bar lower end portion 142, while the other end includes a latching abutment 151 and an exposure control stop 160. When no cube is positioned on the camera, the lever 132 is biased in a clockwise direction by means of a spring 163 to a first (Fig. 4) position wherein the abutments 150 maintains the T-bar 122 in the raised position. However, when a cube is positioned and latched on the camera, the T-bar is forced to its retracted position against the bias of spring 163 and thereby rotates lever 132 in a counterclockwise direction to its second position.

The pivotal member 134 is mounted on a pin 162 at one end 164 thereof for pivotal movement between a lowered position *a'* and extended raised positions *b'* and *c'*, in which an extension 166 of the member 134 extends into a cube on the camera for sensing the position of the striker 74. At the upper end of extension 166, an abutment surface 170 and a camming surface 172, are provided respectively for engaging the cube

striker 74 and for engaging a portion of the cube base to cam the member 134 downwardly upon cube rotation as described more fully hereinafter.

Also extending from the body portion of member 134 are latching and signal controlling abutment members 176 and 178, respectively, and a pin 180. The latching member 176 is configured and positioned to be engaged by the abutment 151 of lever 132 when no flashlamp is positioned on the camera. Such engagement latches the member 134 in its lowered position by blocking the movement thereof to its raised position. When a flashlamp is positioned on the camera, lever 132 is rotated in a counterclockwise direction by means of the T-bar 122, as described above, and releases the member to permit movement thereof to its raised position. The signal controlling member 178 transfers movement of the pivotal member 134 to the flag as will be described more fully hereinafter in connection with the signal means. Pin 180 similarly couples the member 134 to the lever 138, for transferring a striking force to the member 134 as also will be described more fully hereinafter in connection with the lever 138.

Signal means 136 is illustrated as a translucent flag member 182 mounted for movement between a raised position (Fig. 4), wherein it is not ordinarily visible to the camera operator looking through the viewfinder 18, and a lowered position (dotted lines in Fig. 1), wherein it may easily be viewed by the operator. Other forms of indicating means not shown could include a warning lamp or body release blocking member settable or movable to conditions or positions representative or indicative of an inoperative flashlamp. It should be understood, however, that even in the case of an electrical signal or lamp, the sensing means, for effecting the signal, is mechanical in operation and is neutral in electrical polarity insofar as its sensing function is concerned.

Flag 182 is pivotally mounted within the camera casing by means of a rod 184 and is biased toward its raised position by means of a spring 186. An extension 188 of the rod 184 is engageable by the member 178 of the pivotal member 134 for movement of the flag to its lowered or signal position in response to movement of the pivotal member 134 to a raised position. As illustrated, the flag indicates the presence of an inoperative flashlamp, but, of course, it also could be used to signal an operative flashlamp, and in such case would be biased to its lowered position and would be moved to the raised position by movement of the pivotal member 134.

The lever 138 is pivotally mounted on a stud 190 and has one end 192 engageable

with a lug 180 on the pivotal member 134. The other end of the lever 138 includes a striking surface 194 adapted to be struck by a hammer member 198 on the driver member 140 as will be described more fully hereinafter. A spring 196 attached at one end to a lug 195 on the lever 138 and at the other end to a fixed part of the camera, urges the lever in a counterclockwise direction as viewed in Fig. 4. This resilient force is transmitted by the lever 138 to the pivotal member 134 and also serves to urge the member 134 toward the raised position as described hereinabove. However, the spring 196 is not sufficiently strong to overcome the force of spring 163, which maintains the lever 132 in its Fig. 4 position when no cube is positioned on the camera. The striking surface 194 of the lever 138 is adapted to move between any selected one of three positions *a*, *b* and *c* depending on whether a cube is positioned on the camera and on the operative or inoperative condition of the forwardly facing flashlamp in the cube. For example, when no cube has been positioned on the camera, the lever 138 will be held in its most clockwise position *a* by the pivotal member 134. In this limit position *a*, the surface 194 (dotted lines in Fig. 4) is located above the hammer member 198 on the striking driver member 140 and will not be engaged thereby when the driver member 140 is actuated to effect operation of the camera shutter. If a cube is positioned on the camera, and the forwardly facing flashlamp is operative, the lever 138 will move to a second position *b* wherein surface 194 is located in a position where it will be engaged or impacted by the hammer member 198 upon shutter operation. Should a cube be positioned in the camera with an inoperative flashlamp in the forwardly facing or firing position, the lever 138 will move to its third position *c* and the surface 194 will be located below hammer member 198 where it will not be engaged by the hammer upon shutter operation.

In the illustrated embodiment, the driver member 140 comprises a two part arm mounted within the camera for movement between a first or cocked position and a second or released position. While the driver has been illustrated as a two part construction, these parts move substantially in unison and it will be apparent to those skilled in the art that a single part driver also would be satisfactory. The driver member 140 includes a latching surface 202, adapted to be engaged by the blocking surface 28 of the shutter release member 14 to maintain the driver member in a cocked position, and is released by depression of the shutter release member for rapid movement under the influence of a relatively strong spring 200 to a released position of the driver

member. The driver member 140 further is provided with a shutter driving surface 204 adapted to engage the upper portion of the shutter blade to open the shutter.

In the operation of firing mechanism 22, spring 163 and abutment 150 of lever 132 maintain the mechanism in an inoperative condition prior to positioning of a flashlamp on the camera. In this condition, the abutment 150 engages T-bar 122 to position it in a raised location within socket 100 (dotted lines in Fig. 4) and abutment 151 holds extension 166 of member 134 in a lowered position *a* substantially completely within the camera casing. The member 134, in turn, engages and secures the flag 182 in its raised position and the lever 138 in its first position *a*. Thus, upon depression of the camera body release to effect film exposure, the driver member 140 is released to strike and move the shutter blade 32 to the open position for a predetermined exposure period. The lever 138, on the other hand, will not be engaged by hammer member 198 of the driver member 140 and the flash firing mechanism will remain inactive.

Upon positioning a flashlamp on the camera, the lamp will engage and move cam T-bar 122 to the lowered position thereof (solid lines in Fig. 4) to rotate lever 132 in a counterclockwise direction and release member 134. In this condition, member 134 is raised upwardly under the action of spring 196, transmitted to the member 134 through the lever 138, until extension 166 engages and is stopped by a striker 74 associated with the forwardly facing lamp (positions *b* in Fig. 4). For this purpose spring 196 is sufficiently strong to move the mechanical elements as described above, but does not transmit sufficient force to dislodge the striker 74 to fire the flashlamp. At the same time, the striking surface 194 is located at position *b* where it will be struck by the hammer member 198 of the driver member 140. Although the flag 182 also pivots in response to movement of member 134, this movement will not be sufficient to position the flag in view within the viewfinder. In this case, depression of the shutter release member 14 releases the driver member for rapid movement into engagement with the shutter blade 32 as described above. Additionally, however, and synchronously therewith, the hammer member 198 strikes the lever 138 to effect firing of the flashlamp. Such firing is accomplished by the transmission of the striking force through the lever 138 and to the member 134 thereby to move the extension 166 thereof upwardly and dislodge the pre-energized striker 74 from its stop member 78.

Assuming now that the forwardly facing flashlamp has been fired, its striker 74 will not be located in its energized position over 130

cube opening 82 and the movement of the member 134 will not be blocked by engagement of its extension 166 with a striker. Instead, the member 134 will move to its uppermost position *c* beyond where it would have contacted the striker. This movement, in turn, will affect positioning of the flag 182 in the viewfinder to warn the camera operator that the forwardly facing flashlamp is inoperative. Additionally, the lever 138 will move to its third position *c* where the striking surface 194 thereof will be located below the hammer member 198 of driver member 140 and out of the path of movement thereof.

After firing of the flashlamp, the unit in which it is contained may be rotated in index the next lamp in the firing locus. For this purpose, the extension 166 of the member 134 is cammed downwardly out of the unit until the next flashlamp is properly positioned at the firing position; at which time the member 134 again moves upwardly into the unit to contact the striker 74 associated with the next lamp. Referring to Fig. 5, and the preferred embodiment, retraction of the extension 166 to allow indexing of flashlamps in a multilamp unit is accomplished by means of cooperative engagement between the camming surface 172 and peripheral portion 210 of opening 82 in the cube base. As the cube rotates, such peripheral portion 210 contacts the camming surface 172 (dotted lines in Fig. 5) and translates the rotating force of the cube to a downward force in the member 134. Upon continued rotation of the cube, the extension 166 will ride over the bottom of the cube base until it is aligned with and enters the next adjacent cube opening.

In order to prevent any undesirable tilting of the cube either during firing or indexing thereof, a top surface 212 (Fig. 1) of camera casing 10 is provided with a rib 214 diagonally opposite the socket from abutment surface 170 of the extension 166 on the member 134. This rib 214 is configured to extend upwardly to a position adjacent the lower surface of cube base 44 when a cube is in the socket and will engage the base to prevent any such undesirable tilting.

Referring now to Fig. 6 a mechanism for adjusting or setting a camera diaphragm aperture, upon positioning of a flashlamp or cube on the camera, is illustrated. This mechanism includes a portion 220 coupled to the shutter release member 14, a slip clutch 222, adjustable diaphragm means 224 coupled to the portion 220 by the slip clutch 222, a distance setting member 226 and an adjustable linkage 228. Adjustable diaphragm means 224 is pivotally mounted within the camera for movement between a

plurality of positions each respectively effecting the definition of a particular aperture for film exposure. As the shutter release member is depressed, an appropriate linkage, such as a rack and gear 230, translates the release movement to a rotary movement carried through clutch 222 to the diaphragm means 224. Final positioning of the diaphragm is determined by a blocking means adjustable to engage and prevent further rotation of the diaphragm only after the diaphragm rotation has positioned the proper aperture behind the objective. In the case of daylight exposure, a blocking means (not shown) may be adjusted in accordance with natural-light intensity. In the case of flash exposure, however, the blocking means comprises a projection 234 on the diaphragm means 224 engageable with a blocking lever 236 when the blocking lever is in the appropriate one of two positions dependent on whether a flashlamp is on the camera and on the camera distance setting. For example, and as will be apparent from the foregoing description of the flash sensing and actuating mechanism 22, when no flash is positioned on the camera, exposure control stop 160 on the lever 132 will be in a lowered position, illustrated in dotted lines in Fig. 6 and will engage linkage 228 to maintain blocking lever 236 in an inoperative position wherein the daylight exposure system will control the size of the aperture.

When a cube is positioned on the camera, on the other hand, exposure control stop 160 will be moved to its solid line or raised position in Fig. 6 and will not engage linkage 228. Thus, the blocking lever will be free, under certain conditions, to move to its blocking position and over-ride the daylight exposure control system. However, for "normal" flash, the proper aperture usually is the largest aperture available, and under flash conditions this aperture automatically is set by the daylight exposure system. Therefore, a second setting means 242 is provided on the camera setting member 226 to prevent movement of blocking lever 236 to its blocking position when the setting member is set for normal flash (∞ in Fig. 6). For close-up flash, usually six feet or less, the second setting means 242 is rotated to a nonengaging position (6 ft in Fig. 6) wherein it will not block movement of blocking lever 236 and, in this case, the blocking lever will engage projection 234 to over-ride the daylight exposure system and to position a smaller aperture behind the objective for proper close-up flash exposure.

While the preferred mechanism has been described in connection with a camera, it

should be understood that it would be incorporated into, and would operate equally well, in other photographic apparatus such as camera attachments or separate flash firing apparatus.

WHAT WE CLAIM IS:—

1. A photographic flashlight device or camera comprising a holder for receiving a percussion-ignitable flashlamp unit of the kind defined and locating a deformable or displaceable element (as defined herein) of the lamp unit in a firing position, an actuating member movable toward a deformable or displaceable element located in the firing position and means responsive to the locating of such element in the firing position for moving the actuating member into non-firing engagement with the element.

2. A photographic flashlight device or camera according to claim 1, wherein the actuating member is caused to move into non-firing engagement with a firing element located in the firing position by means of a movably mounted member which is displaced upon insertion of a flashlamp unit into the holder.

3. A photographic flashlight device or camera according to claim 1 or 2, wherein the holder is adapted to receive a multi-lamp unit and is indexable to locate a firing element in the firing position, the actuating member being caused to move into non-firing engagement with a firing element indexed to the firing position.

4. A photographic flashlight device or camera according to claim 1, 2 or 3, wherein the actuating member is movable from non-firing engagement with a firing element located in the firing position to firing engagement therewith.

5. A photographic flashlight device or camera according to any one of the preceding claims, wherein the actuating member causes actuation of a signalling device for indicating the fired or unfired condition of a firing element located in the firing position.

6. A photographic flashlight device or camera according to any one of the preceding claims, wherein the actuating member comprises a pivotally mounted member which is spring urged in a direction to cause an extension thereof to protrude through an aperture in the holder and into engagement with a firing element located in the firing position, a slidably mounted bar being spring urged to a position from which

it is moved by the insertion of a flashlamp unit to a position in which it releases a latching member holding the actuating member against movement into engagement with the firing element located in the firing position.

7. A photographic flashlight device or camera according to claim 6, wherein the holder is indexable to locate a firing element of a multilamp unit in the firing position and the actuating member is cammed to a position, during the indexing of the holder, to a position in which the extension of the actuating member is moved out of the path of movement of a firing element being moved into the firing position.

8. A photographic flashlight device or camera according to claim 7, wherein the extension of the actuating member is provided with a camming surface which, upon insertion of a multi-lamp unit in the holder and indexing the holder, is engaged by the unit to cam the actuating member away from the firing position.

9. A photographic camera according to claim 6, 7 and 8 having a lamp firing mechanism comprising a hammer member operable upon actuation of a shutter release member and a pivotally mounted driver member having one end engaged by the actuating member so that in the absence of a flashlamp unit in the holder its other end is located out of the path of movement of the hammer member, with a flashlamp unit inserted in the holder and a fired firing element in the firing position said other end of the driver member is out of the path of movement of the hammer member, and with a flashlamp unit inserted in the holder with an unfired firing element located in the firing position said other end of the driver member is disposed in the path of movement of the hammer member to be struck thereby upon actuation of the shutter releasing member to cause the extension of the actuating member to strike the firing element and ignite the associated lamp in synchronism with shutter operation.

10. A photographic camera having an indexable holder for receiving a multi-lamp percussion-ignitable flash lamp unit, substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

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Agent for the Applicants.

should be understood that it would be incorporated into, and would operate equally well, in other photographic apparatus such as camera attachments or separate flash firing apparatus.

WHAT WE CLAIM IS:—

1. A photographic flashlight device or camera comprising a holder for receiving a percussion-ignitable flashlamp unit of the kind defined and locating a deformable or displaceable element (as defined herein) of the lamp unit in a firing position, an actuating member movable toward a deformable or displaceable element located in the firing position and means responsive to the locating of such element in the firing position for moving the actuating member into non-firing engagement with the element.

2. A photographic flashlight device or camera according to claim 1, wherein the actuating member is caused to move into non-firing engagement with a firing element located in the firing position by means of a movably mounted member which is displaced upon insertion of a flashlamp unit into the holder.

3. A photographic flashlight device or camera according to claim 1 or 2, wherein the holder is adapted to receive a multi-lamp unit and is indexable to locate a firing element in the firing position, the actuating member being caused to move into non-firing engagement with a firing element indexed to the firing position.

4. A photographic flashlight device or camera according to claim 1, 2 or 3, wherein the actuating member is movable from non-firing engagement with a firing element located in the firing position to firing engagement therewith.

5. A photographic flashlight device or camera according to any one of the preceding claims, wherein the actuating member causes actuation of a signalling device for indicating the fired or unfired condition of a firing element located in the firing position.

6. A photographic flashlight device or camera according to any one of the preceding claims, wherein the actuating member comprises a pivotally mounted member which is spring urged in a direction to cause an extension thereof to protrude through an aperture in the holder and into engagement with a firing element located in the firing position, a slidably mounted bar being spring urged to a position from which

it is moved by the insertion of a flashlamp unit to a position in which it releases a latching member holding the actuating member against movement into engagement with the firing element located in the firing position.

7. A photographic flashlight device or camera according to claim 6, wherein the holder is indexable to locate a firing element of a multilamp unit in the firing position and the actuating member is cammed to a position, during the indexing of the holder, to a position in which the extension of the actuating member is moved out of the path of movement of a firing element being moved into the firing position.

8. A photographic flashlight device or camera according to claim 7, wherein the extension of the actuating member is provided with a camming surface which, upon insertion of a multi-lamp unit in the holder and indexing the holder, is engaged by the unit to cam the actuating member away from the firing position.

9. A photographic camera according to claim 6, 7 and 8 having a lamp firing mechanism comprising a hammer member operable upon actuation of a shutter release member and a pivotally mounted driver member having one end engaged by the actuating member so that in the absence of a flashlamp unit in the holder its other end is located out of the path of movement of the hammer member, with a flashlamp unit inserted in the holder and a fired firing element in the firing position said other end of the driver member is out of the path of movement of the hammer member, and with a flashlamp unit inserted in the holder with an unfired firing element located in the firing position said other end of the driver member is disposed in the path of movement of the hammer member to be struck thereby upon actuation of the shutter releasing member to cause the extension of the actuating member to strike the firing element and ignite the associated lamp in synchronism with shutter operation.

10. A photographic camera having an indexable holder for receiving a multi-lamp percussion-ignitable flash lamp unit, substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

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