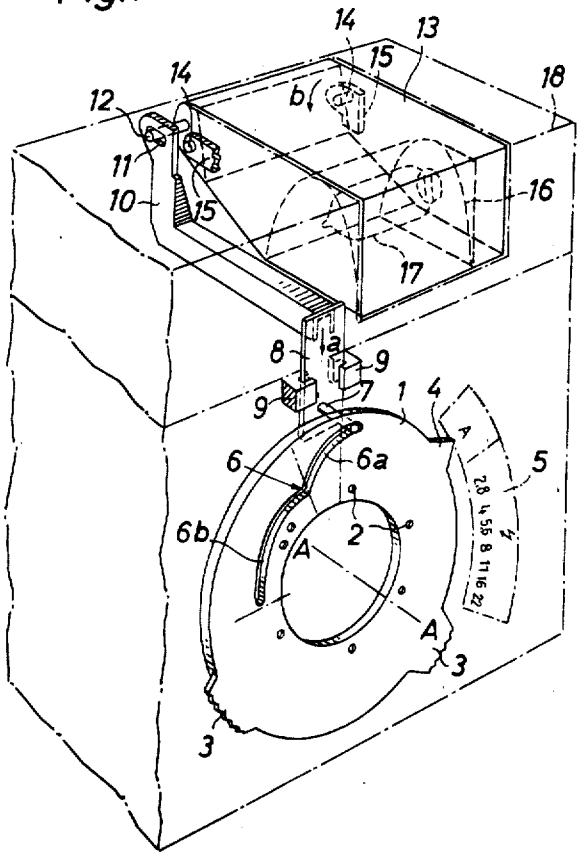
Jan. 13, 1970 F. HENNIG ETAL Re. 26,763

CAMERAS WITH BUILT-IN FLASH ASSEMBLIES

Original Filed May 15, 1964 3 Sheets-Sheet 1

Fig.1




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CAMERAS WITH BUILT-IN FLASH ASSEMBLIES

Original Filed May 15, 1964 3 Sheets-Sheet 2

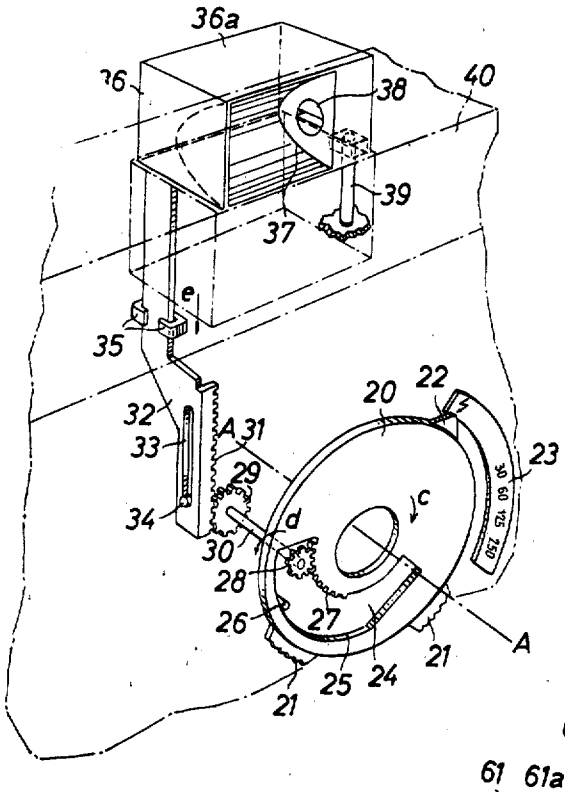
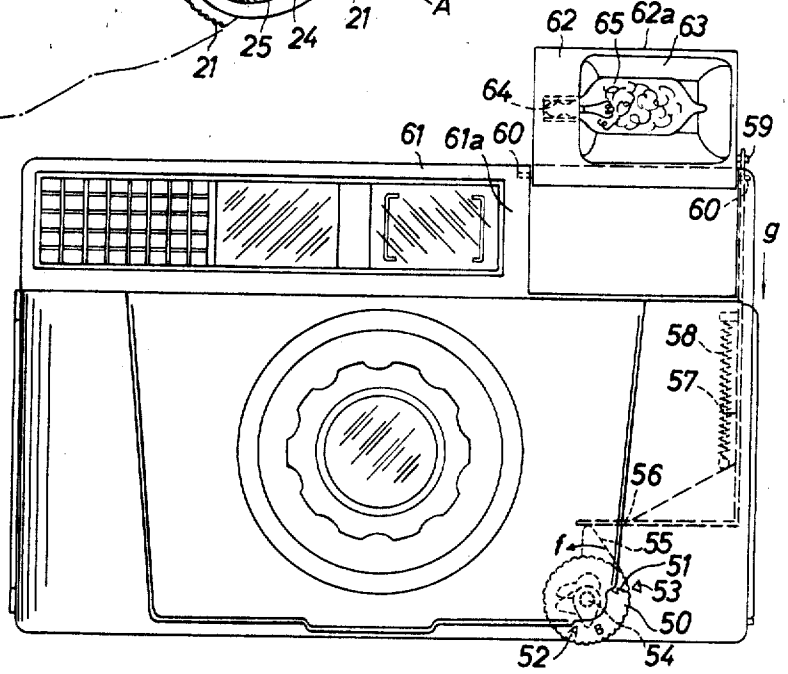



Fig.2

Fig.3




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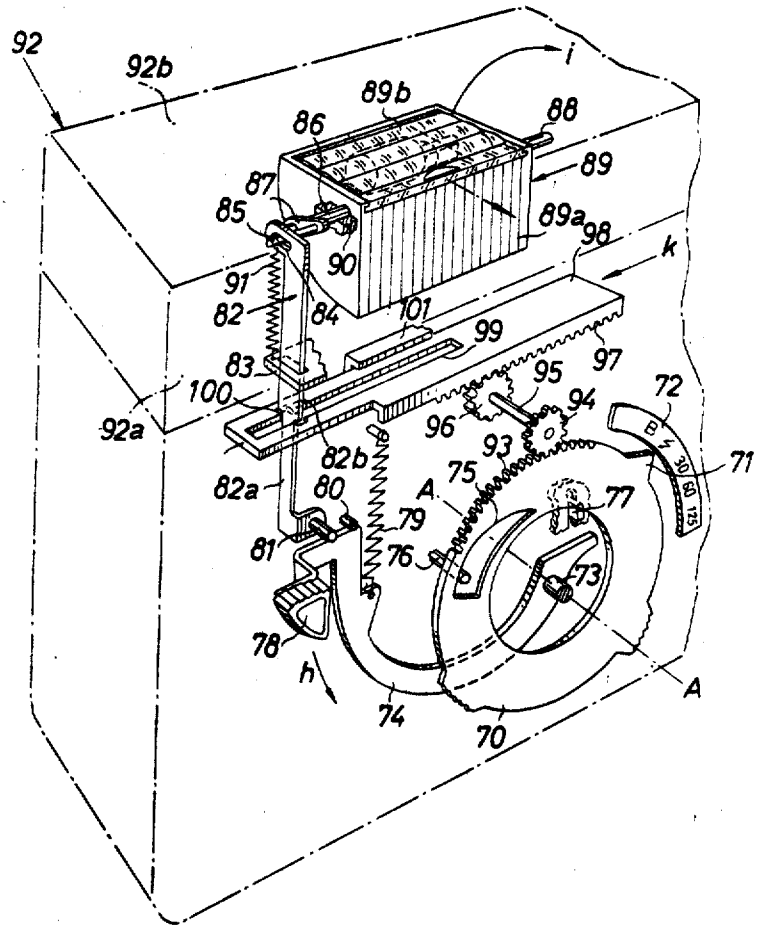
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CAMERAS WITH BUILT-IN FLASH ASSEMBLIES

Original Filed May 15, 1964 3 Sheets-Sheet 3

Fig.4




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United States Patent Office

Re. 26,763
Reissued Jan. 13, 1970



26,763

# CAMERAS WITH BUILT-IN FLASH ASSEMBLIES

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Original No. 3,260,181, dated July 12, 1966, Ser. No. 367,735, May 15, 1964. Application for reissue June 28, 1968, Ser. No. 748,578

Claims priority, application Germany, May 18, 1963, A 43,144

Int. Cl. G03b 7/00, 7/20

U.S. Cl. 95—11 15 Claims

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

## ABSTRACT OF THE DISCLOSURE

*A camera with a built-in flash assembly a portion of which is moved to an operative position in response to setting of the camera for operation with flash. The movable portion of the flash assembly can be moved to operative position by a manually operable selector which sets the camera for operation in daylight or for operation with flash or by a shutter release lever when the camera is already set for operation with flash. The movable portion of the flash assembly can remain in operative position for as long as the camera remains set for operation with flash or returns to an inoperative position upon completion of an exposure with flash.*

## BACKGROUND OF THE INVENTION

The present invention relates to cameras.

More particularly, the present invention relates to cameras with built-in flash assemblies, particularly of the type which include a reflector which must be moved from a rest position to an operative position.

With conventional cameras of this type it is necessary for the operator to move the reflector to its operative position before making a flash exposure, so that the operator must carry out certain manual operations solely in connection with the flash assembly before and after making one or more flash exposures.

## SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a camera structure of the above type which requires the operator only to make normal camera adjustments which in any event are required for flash exposures, without, however, requiring the operator to carry out any operations with respect to the flash assembly itself.

In particular it is an object of the invention to provide a structure capable of automatically moving a flash assembly to its operative position when the operator manipulates a manually operable means of the camera which must in any event be manipulated in connection with the making of a flash exposure.

Thus, the objects of the present invention include the provision of a structure capable of automatically moving a flash assembly to its operative position when the operator carries out operations such as, for example, setting the camera to an exposure time suitable for flash exposure, setting the camera to an aperture suitable for flash exposure, releasing the shutter of the camera to make a flash exposure, or manipulating a selector means which selectively places the camera in a position ready for making flash exposures.

With the above objects in view, the invention includes, in a camera, a camera housing and a flash assembly supported by the housing for movement between rest and



operative positions. A manually operable means is carried by the camera housing to be manipulated in connection with the making of a flash exposure, and a transmission is connected between the manually operable means and flash assembly for moving the latter to its operative position in response to manipulation of the manually operable means in connection with the making of a flash exposure.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodmients when read in connection with the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective illustration of one possible embodiment of a structure of the invention shown in association with a camera housing fragmentarily illustrated in dot-dash lines;

FIG. 2 is a perspective view of another embodiment of a structure according to the invention also shown with a camera housing fragmentarily illustrated in dot-dash lines;

FIG. 3 is a front elevation of a third embodiment of the invention shown in FIG. 3 in its operative position; and

FIG. 4 is a perspective illustration of a fourth embodiment of a structure according to the invention, the structure being shown in FIG. 4 also with a camera housing which is fragmentarily illustrated in dot-dash lines.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIG. 1, there is shown therein one embodiment of the invention adapted to be associated with a camera having a known and unillustrated exposure control device. The camera housing, which is fragmentarily illustrated in dot-dash lines in FIG. 1, carries a rotary manually operable means 1 in the form of a ring capable of being turned about the optical axis AA which passes through the center of the ring, and this ring 1 is situated in a plane normal to the optical axis and is provided with finger pieces 3 accessible to the operator to facilitate turning of the ring 1 which in the illustrated example is capable of being manipulated to set the diaphragm. This ring 1 may be mounted, for example, at the rear wall of a shutter housing. The turning of the ring 1 may be used for adjusting the aperture of an iris diaphragm the blades of which may, for example, have pins received in the bores 2 of the ring 1. Thus the ring 1 can form the bearings for the diaphragm blades, although it is also possible to use the ring 1 merely for the purpose of providing a manually turnable ring which in such a case can be coupled to a special ring which is operatively connected to the diaphragm blades to support the latter for rotary movement, for example. The ring 1 carries a peripheral, pointed projection 4 which acts as an index to cooperate with a scale 5 carried by the camera housing, and this scale 5 has a symbol A indicating the position in which the ring 1 is to be placed when the camera is to be set for automatic operation, and indeed the ring 1 is illustrated in this position in FIG. 1. The automatic operation referred to above is a well known automatic operation where a light responsive structure automatically sets the diaphragm and/or the exposure time. The scale 5 includes also a series of graduations indicating various aperture settings, and the range of the scale 5 which includes the specific aperture settings also carries a symbol

indicating that this range of settings is to be used for flash exposures.

The ring **1** is formed with a camming slot **6** which receives a pin **7** of a moving or transmission means which also includes a displaceable member **8** which fixedly carries the pin **7** which extends parallel to the optical axis. Suitable guide members **9** are carried by the camera housing to guide the displaceable member **8** for straight-line vertical movement in response to turning of the ring **1**. This displaceable member **8** includes a rearwardly extending arm **10** having at its upper rear end portion a horizontal slot **11** receiving a pin **12** which extends perpendicular to the optical axis and which is fixed to a flash assembly which includes the casing **13** to which the pin **12** is directly fixed. This outer casing **13** of the flash assembly is also fixed to a pair of coaxial pins **14** respectively supported for turning movement by bearings **15** which are fixedly carried by the camera housing, so that in this way the flash assembly is carried by the camera housing for turning movement about the common axis of the pins **14** between the rest position shown in FIG. 1 and an operative position. The casing **13** carries in its inter or a reflector **16** having at one end a lamp socket for receiving the flash lamp **17**.

When the flash assembly is in the rest position shown in FIG. 1 it is situated within a recess formed in the upper part **18** of the camera housing, and at this time the exterior walls of the casing **13** are flush with and form continuations of the upper and front walls of the upper part **18** of the camera housing.

In the event that it is desired to make a flash exposure, the operator will turn the ring **1** until its index **4** is aligned with the selected aperture indicated by the scale **5**. This rotary movement of the index **4** from the symbol A to the first one of the graduations of the scale **5** which is encountered by the index **4** as it moves away from the symbol A causes the camming portion **6a** to turn relative to the pin **7** so as to pull the latter downwardly and thus displace the displaceable member **8** of the transmission means **7–12** downwardly in the direction of the arrow a. The arm **10** of course moves down with the remainder of the member **8** so that the pin **12** is displaced downwardly with the result that the casing **13** is turned in the direction of the arrow b about the common axis of the pins **14** through approximately 90° to an upright operating position where the reflector **16** is directed forwardly and is thus in an operative position. The continued turning of the manually operable means **1** displaces the camming portion **6b** of the camming slot **6** with respect to the pin **7**, but this camming portion **6b** extends along a circle whose center is in the optical axis so that at this time there is no further movement of the flash assembly **13–17**, and thus the operator can place the index **4** at any selected aperture in the range of apertures of the scale **5** indicated as suitable for flash operation without moving the flash assembly away from its operative position.

If, after making one or more flash exposures it is desired to make an exposure without flash illumination, then the operator will simply return the manually operable means **1** to its position where the index **4** is aligned with the symbol A of the scale **5**, and in this way the displaceable member **8** of the transmission means **7–12** is moved in a direction opposite to that indicated by the arrow a so as to return the flash assembly **13–17** to the illustrated rest position.

With the embodiment of FIG. 2 there is a manually operable means in the form of an exposure time setting ring **20** which is mounted for rotary movement about the optical axis AA, and this ring **20** is also in a plane normal to the optical axis. The ring **20** has finger pieces **21** accessible to the operator and also includes an index **22** movable relative to a stationary scale **23** carried by the camera housing. The scale **23** includes exposure time graduations as well as a symbol for the position in which the ring **20** should be placed for making flash exposures, so that the ring **20** forms also a manually operable means manipulated in connection with the making of flash exposures. The ring **20** is formed with a cutout **24**. One of the edge portions which defines part of the cutout **24** forms a camming edge **25** cooperating with a control pin **26** for setting the exposure time of the camera in a manner well known in the art according to the angular position of the ring **20**.

Another edge portion which defines part of the cutout **24** is provided with teeth **27** forming a segment of a gear and meshing with a pinion **28** fixed together with a coaxial pinion **29** to a common shaft **30** which extends parallel to the optical axis and is supported for rotary movement by any suitable unillustrated bearings which are carried by the camera housing. The pinion **29** meshes with a rack **31** of a displaceable member **32** which together with the above-described gear train forms a moving or transmission means for moving a flash assembly between its rest and operative positions. The displaceable member **32** is formed with an elongated slot **33** receiving a stationary pin **34** which is fixed to the camera, and in addition suitable stationary guides **35** of the camera guide the displaceable member **32** for vertical movement, so that in this way the vertical member **32** can only move up and down in a straight line.

The top end of the displaceable member **32** of the transmission means is fixed to a flash assembly which includes the casing **36** carrying in its interior a reflector **37** which is open at its front portion and which carries at one end a lamp socket **38**. The casing **36** in addition is formed with a guide bore receiving a stationary guide rod **39** which is fixedly carried by the camera.

In the position of the parts illustrated in FIGURE 2 the flash assembly **36–38** has been displaced to its operative position where it is situated outside of a recess formed in the upper part **40** of the camera.

In the event that it is desired to make an exposure without flash illumination, the manually operable means **20** is turned so as to place the index **22** in alignment with a selected exposure time of the scale **23**. This rotary movement of the manually operable exposure time setting means **20** in the direction of the arrow c turns the pinions **28** and **29** in the direction of the arrow d, so that the displaceable member **32** is displaced downwardly in the direction of the arrow e. In this way the casing **36** together with the reflector **37** are returned from their operative to their rest position where the reflector **37** and its socket **38** are completely closed off from the exterior of the camera. In the rest position of the flash assembly of FIG. 2 the upper wall **36a** of the casing **36** is flush with the top wall of the upper camera part **40**.

It is to be noted in connection with FIG. 2 that one of the numerical exposure time settings of the scale **23** will be a setting for the same exposure time as that which is provided for the flash exposure. For example when the index **22** is aligned with the flash symbol of the scale **23**, as indicated in FIG. 2, the actual exposure time may be $\frac{1}{30}$ sec., which is the same exposure time as the first graduation of the scale **23**. However, in spite of the fact that these two settings will provide the same exposure time, the flash assembly will be displaced to its operative position only when the index **22** is aligned with the flash symbol in order to provide at this time for flash operation the same exposure time that the camera is capable of providing during other than flash exposure.

The camera of FIG. 3 includes a known and unillustrated automatic exposure control device capable of being rendered inactive by a manually operable selecting means **50**. This selecting means **50** is supported for rotary movement by the camera housing and has a symbol A capable of being aligned with a stationary index **53** in order to place the selecting means **50** in a position which sets the camera for automatic exposure control. The selecting means includes in addition to the member **50** which is accessible to the operator a shaft **54** which is

fixed to the accessible member **50** for rotary movement therewith, and this shaft **54** carries a plurality of cams for the purpose of rendering the automatic exposure control device inactive and placing the camera in a condition for manual operation where, for example, the diaphragm can be manually set.

The cam shaft **54** carries an additional cam **55** which forms part of a transmission means for moving a flash assembly to its operative position when the selecting means **50** is displaced to the position for flash operation. This selecting means **50** includes, in addition to the symbol **52** for automatic operation, a symbol **51** for flash operation, and in the position of the parts shown in FIG. 3 the symbol **51** is aligned with the index **53**.

The transmission includes in addition to the cam **55** a displaceable member **57** guided for straight line movement in a vertical direction and having an arm **56** directly engaging the cam **55**. In order to maintain the member **57** in engagement with the cam **55** a spring **58** is fixed at one end to an element which is fixed to and projects from the member **57** and at its opposite, lower end to a stationary part of the camera, so that the spring **58** urges the displaceable member **57** in the direction of the arrow g. In the same way as described above in connection with FIG. 1, the upper end of the member **57** is formed with a horizontal slot receiving a pin **59** fixed to the casing **62** of the flash assembly. This casing **62** fixedly carries a pair of coaxial pins **60** supported for turning movement in suitable stationary bearings carried by the upper part **61** of the camera housing, and of course the pin **59** is displaced from the common turning axis provided by the pins **60**. The flash assembly includes, in addition to the casing **62**, a reflector **63** which is open toward the front in the operative position shown in FIG. 3 and which carries a socket **64** for receiving the lamp **65**. The member **50** was previously turned in a clockwise direction, as viewed in FIG. 3, to the position shown in FIG. 3, so that the cam **55** acts on the arm **56** of member **57** to raise the latter in opposition to the spring **58** and thus turn the flash assembly **62–64** through approximately 90° to the illustrated operative position, this movement of the flash assembly corresponding to that described above in connection with FIG. **1**.

When the selector **50** is turned together with the shaft **54** in the direction of the arrow f until the automatic symbol **52** is aligned with the index **53**, the displaceable member **57** is moved downwardly by the spring **58** in the direction of the arrow g, and the result is that the transmission of FIG. 3 turns the flash assembly back to its rest position about the common axis of the pins **60** until the upper surface **62a** of the casing **62**, as viewed in FIG. 3, is flush with the front wall **61a** of the upper part **61** of the camera.

In the embodiment of the invention which is illustrated in FIG. 4, an exposure time setting ring **70** is supported for rotary movement about the optical axis AA and has an index **71** capable of being aligned with a selected symbol of the scale **72** which is fixedly carried by the camera housing. This scale **72** includes a symbol for bulb exposure, a symbol for flash exposure, and a plurality of numerical exposure time graduations. In a manner similar to that described above in connection with ring **20** of FIG. 2, the ring **70** is formed with a cutout one edge **75** of which forms an exposure time controlling cam cooperating with the exposure time determining pin **76** of the exposure time regulating mechanism which is conventional and well known in the art.

Furthermore, a manually operable means in the form of a shutter release lever **74** is supported for rotary movement by a stationary pin **73** carried by the camera housing in a position extending parallel to but displaced from the optical axis AA. The lever **74** extends around the optical axis approximately along a semi-circle. One end of the lever **74** cooperates with the shutter releasing pawl **77** part of which is illustrated in FIG. 4, while the other end of the lever **74** carries a finger piece **78** accessbile at the front of the camera. Furthermore, one end of a return spring **79** is fixed to the lever **74**, and the opposite end of this spring is fixed to a stationary part of the camera so that the spring **79** urges the lever **74** to the starting position illustrated in FIG. 4 where the lever **74** engages a stationary stop pin **80**.

The moving or transmission means of FIG. 4 includes a pin **81** engaging the lever **74** and fixed to a displaceable member **82** guided by suitable guide members only part of which are illustrated, the guides **83** guiding the member **82** for vertical, straight line movement. The upper end of the member **82** is formed with a horizontal slot **84** receiving a pin **85** which is fixed to a crank lever **87** which is in turn fixed to a pin **86**. The pin **86** is coaxial with a pin **88**, and both of these pins are fixed to the casing **89** of the flash assembly of this embodiment, these pins **86** and **88** being supported for turning movement in suitable stationary bearings **90** carried by the camera housing. Between the pin **85** and the guide **83** is a tensioned spring **91** which is weaker than the spring **79** and which urges the flash assembly to turn in the direction of the arrow i. The spring **91** thus also maintains the pin **81** in engagement with the lever **74**.

The casing **89** of the flash assembly accommodates in its interior a reflector and lamp socket, and there is shown in FIG. 4 the lower wall **89a** of the flash assembly which in the illustrated rest position thereof is flush with the front wall **92a** of the upper camera part **92**. This lower wall **[98]** *89a* is opaque. In the rest position of the flash assembly shown in FIG. 4 the front side **89b** of the flash assembly is substantially flush with the upper wall **92b** of the upper part **92** of the camera, and this front part **89b** can take the form of a transparent light-dispersing plate.

The exposure time setting ring **70** is provided along part of its periphery with gear teeth **93**, forming a gear segment meshing with a pinion **94** which is fixed together with a coaxial pinion **96** to a shaft **95** supported by unillustrated bearings for rotary movement. The pinion **96** meshes with a rack **97** of a horizontally slidable blocking means **98** guided for movement in suitable guides **101** which are carried by the camera housing. This blocking means **98** is formed with an elongated slot **99** the width of which is only slightly greater than the width of the lower portion **82a** of the displaceable member **82** of the transmission, and a portion of the slot **99** is widened by the aligned notches **100** providing the slot **99** at the notches **100** with a width greater than the width of the upper portion of the displaceable member **82**, this upper portion extending upwardly from the lower narrower portion **82a** and forming a pair of shoulders therewith.

With the parts in the position shown in FIG. 4, the exposure time setting means **70** has been set for flash operation and in order to make an exposure the finger piece **78** is displaced together with the lever **74** in the direction of the arrow h, and the turning of the lever **74** permits the pin **81** and member **82** to move downwardly under the action of the spring **91**. In this way through the pin-and-slot connection **84, 85** the crank lever **87** and the coaxial pins **86** and **88** are turned so as to turn the casing **89** in the direction of the arrow i. The transmission is designed so that the front side **89b** of the casing **89** is in a vertical plane before the right end of the lever **74**, as viewed in FIG. 4, engages the release pawl **77**.

After the pawl **77** is released to open the shutter and make the exposure the operator will release the finger piece **78** so that the spring **79** returns lever **74** to its starting position, and inasmuch as the spring **79** is stronger than the spring **91**, the lever **74** engages the pin **81** to return the displaceable member **82** upwardly so as to swing the flash assembly back to its rest position shown in FIG. 4. Thus, at this time the flash assembly turns in a direction opposite to that indicated by the arrow i.

If the ring **70** is displaced from the position of FIG.

4 [1] where it is set for flash illumination, and is instead turned to align its index **71** with one of the numerical exposure time graduations of the scale **72**, then the teeth **93** will turn the pinions **94** and **96** so as to displace the blocking means **98** to a position where the wider portion **100** of the slot **99** is out of alignment with the member **82**. At this time the blocking means **98** is moved in the direction of the arrow k, and the result is that the edge portions which define the slot **99** become located beneath the shoulders or projections of the member **82** located at the junctions bewteen the wider and narrower portions thereof. If the finger piece **78** is again turned in the direction of the arrow h, at this time when the index **71** is aligned with one of the numerical graduations of the scale **72**, then the pin **82** cannot follow the lever **74** when it is actuated to open the shutter inasmuch as the shoulders or projections of the member **82** engage the blocking member **98**. Thus, in this position of the parts, in spite of actuation of the shutter release lever **78**, the flash assembly remains in the illustrated rest position.

The arrangement of FIG. 4 provides the additional advantage of automatically returning the flash assembly to its rest position after each flash exposure.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of cameras differing from the types described above.

While the invention has been illustrated and described as embodied in cameras with flash assemblies, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention [and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims].

What is claimed as new and desired to be secured by Letters Patent is *set forth in the appended claims:*

1. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said camera housing for movement along a first predetermined path between rest and operative positions; exposure factor determining means spaced from said flash assembly *portion* and movably carried by said camera housing for movement along a second predetermined path different and spaced from said first predetermined path of movement of said flash assembly *portion,* said exposure factor determining means being at least movable between a flash position providing an exposure setting for an exposeure with flash illumination and at least one other position providing an exposure setting for an exposure without flash illumination; and moving means operatively connected to said flash assembly *portion* and said exposure factor determining means for, only in response to movement of said exposure factor determining means into said flash position thereof, moving said flash assembly *portion* from said rest at least partly to said operative position thereof, whereby said exposure factor determining means will provide said exposure setting for an exposure without flash illumination without displacing said flash assembly *portion* from rest toward operative position and will displace said flash assembly *portion* from rest at least partly to said operative position thereof only when said exposure factor determining means is moved into said flash position thereof.

2. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; exposure time setting means spaced from said flash assembly *portion* and movably carried by said housing for movement along a second predetermined path different and spaced from said first predetermined path of movement of said flash assembly *portion,* said exposure time setting means being at least movable between a flash position providing an exposure time for an exposure with flash illumination and at least one other position providing an exposure setting for an exposure without flash illumination; and transmission means operatively connected to said exposure time setting means and said flash assembly *portion* for transmitting movement of said exposure time setting means to said flash assembly *portion* for displacing the latter from said rest at least partly to said operative position only when said exposure time setting means is placed in said flash position thereof, whereby said exposure [factor determining] *time setting* means will provide said exposure setting for an exposure without flash illumination without displacing said flash assembly *portion* from rest toward operative position and will displace said flash assembly *portion* from rest at least partly to said operative position thereof only when said exposure [factor determining] *time setting* means is moved into said flash position thereof.

3. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; manually operable exposure time setting means spaced from said flash assembly *portion* and carried by said housing for movement along a second predetermined path different and spaced from said first predetermined path of movement of said flash assembly *portion,* said manually operable exposure time setting means being at least movable between a pair of positions both of which provide the same exposure time but one of which is [for said] *the* exposure time with flash illumination while the other is [for said] *the* exposure time with daylight illumination; and transmission means operatively connected to said exposure time setting means and flash assembly for transmitting movement of said exposure time setting means to said flash assembly *portion* for displacing the latter from said rest at least partly to said operative position thereof only when said exposure time setting means is moved to said one of said positions providing said exposure time with flash illumination.

4. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; manually operable means movably carried by said housing spaced from said flash assembly *portion* and movable along a second predetermined path different and spaced from said first predetermined path of said flash assembly *portion* for setting a diaphragm of the camera to provide a given exposure aperture, said manually operable means being at least movable between a first position providing an aperture suitable for use when making a flash exposure and a plurality of other positions providing different exposure apertures for exposures without flash illumination; and transmission means operatively connected to said manually operable means and said flash assembly *portion* for displacing the latter from said rest at least partly to said operative position only when said manually operable means is placed in said first position thereof, whereby said manually operable means will set said diaphragm for said different exposure apertures suitable for an exposure without flash illumination without displacing said flash assembly *portion* from said rest toward said operative position and will displace said flash assembly *portion* at least toward said operative position thereof only when said manually operable means is moved into said first position thereof.

5. In a camera, in combination, a camera housing;

a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; manually operable means movably carried by said housing spaced from said flash assembly *portion* and movable along a second predetermined path different and spaced from said first predetermined path of said flash assembly *portion* for setting a diaphragm, said manually operable means having at least one position for providing an exposure without flash illumination and a plurality of additional positions forming a predetermined range of positions at any one of which an aperture suitable for flash illumination will be provided; and transmission means operatively connected to said manually operable means and to said flash assembly *portion* for displacing the latter from said rest to said operative position only in response to placing of said manually operable means in one of said plurality of positions of said range of positions.

6. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; manually operable selector means movably carried by said housing spaced from said flash assembly *portion* and movable along a second predetermined path different and spaced from said first predetermined path of said flash assembly *portion* for selecting from at least three different types of camera operations one of which is operation with flash exposure; and transmission means operatively connected to said [selecting] *selector* means and said flash assembly *portion* for displacing the latter from said rest to said operative position only when said [selecting] *selector* means is moved to said position for operating with flash exposure.

7. In a camera, in combination, a camera housing; a flash assembly *at least a portion of which is* carried by said housing for movement along a first predetermined path between rest and operative positions; manually operable means movably carried by said camera housing spaced from said flash assembly *portion* and movable along a second predetermined path different and spaced from said first predetermined path of said flash assembly *portion* to and from a position required for flash exposure; shutter release means carried by said camera housing; moving means operatively connected to said flash assembly *portion* and engaging said shutter release means for responding to actuation thereof to release the shutter for moving said flash assembly *portion* from said rest at least partly into said operative position; and blocking means operatively connected to said manually operable means for blocking operation of said moving means in response to actuation of said shutter release means except when said manually operable means is in said position *required* for flash exposure.

8. In a camera as recited in claim 7, spring means operatively connected to said shutter release means for urging the latter to a predetermined starting position, said moving means including a spring weaker than said spring means and urging said moving means to displace said flash assembly *portion* from said rest to said operative position thereof, said moving means also including an elongated member having a projection and movable along a predetermined path during displacement of said flash assembly *portion* to said operative position, said blocking means being located at the path of movement of said projection to prevent said moving means [for] *from* displacing said flash assembly *portion* to said operative position, and said blocking means being formed with a cutout and being placed by said manually operable means in a position where said cutout is aligned with said projection when said manually operable means is placed in said position required for flash exposure so that in the latter position said projection will be received by said cutout so that said blocking means will not block movement of said moving means and thus of said flash assembly *portion* to said operative position thereof.

9. The combination according to claim 7, wherein said moving means include spring means urging said flash assembly *portion* to said operative position, said blocking means releasing said moving means and thereby said flash assembly *portion* to said spring means to be moved thereby to said operative position when said manually operable means is in said position required for making a flash exposure and said shutter release means is actuated.

10. The combination according to claim 1, wherein said moving means is driven by said exposure factor determining means for displacing said flash assembly *portion* to said operative position thereof when said exposure factor determining means is manipulated in connection with making of a flash exposure.

11. The combination according to claim 1, further comprising cam means carried by said exposure factor determining means for movement therewith, said moving means engaging said cam means to be actuated by the latter for displacing said flash assembly *portion* from said rest to said operative position when said exposure factor determining means is moved into said flash position thereof.

12. The combination according to claim 1, wherein said moving means includes a pinion and rack drive responding to movement of said exposure factor determining means.

13. The combination according to claim 1, wherein said flash assembly *portion* is carried by said housing for turning movement about a predetermined axis between rest and operative positions and further including a pin carried by said assembly in a position spaced from and parallel to said axis, and an elongated displacement member formed with an elongated slot receiving said pin, said exposure factor determining means being operatively connected to said displacement member for displacing the latter so as to move said pin and turn said flash assembly *portion* about said axis to said operative position when said exposure factor determining means is moved to said flash position thereof.

14. The combination according to claim 1, wherein said flash assembly *portion* includes a reflector and a lamp socket, said reflector being large enough to receive a lamp connected to said socket while accommodating said lamp for movement with said assembly *portion* between said positions.

15. In a camera, in combination, a camera housing; *a flash assembly at least a portion of which is carried by said camera housing* for movement along a first predetermined path [; a flash assembly carried by said camera housing] and *is* arranged to be placed in rest and operable conditions; manually operable exposure factor determining means spaced from said flash assembly *portion* and movably carried by said camera housing for movement along a second predetermined path different and spaced from said first predetermined path of movement of said flash assembly *portion*, said manually operable exposure factor determining means being at least movable between a flash position providing an exposure setting for an exposure with flash illumination and a plurality of other positions providing a plurality of exposure settings for exposures without flash illumination; and means operatively connected to said manually operable exposure factor determining means and arranged to cooperate with said flash assembly *portion* for, only in response to movement of said manually operable exposure factor determining means into said flash position thereof, placing said flash assembly *portion* into said operable condition thereof, whereby said manually operable exposure factor determining means will provide said exposure settings for exposures without flash illumination without placing said flash assembly *portion* into said operable condition and will place said flash assembly *portion* into said operable condition thereof only

when said exposure factor determining means is moved into said flash position thereof.

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