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PHOTOGRAPHIC CAMERAS

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Fig. 1

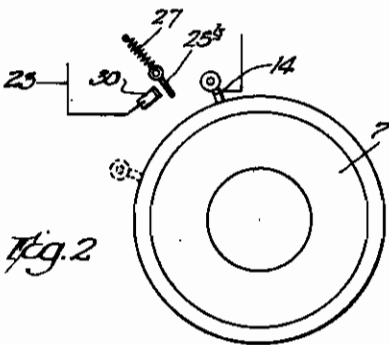
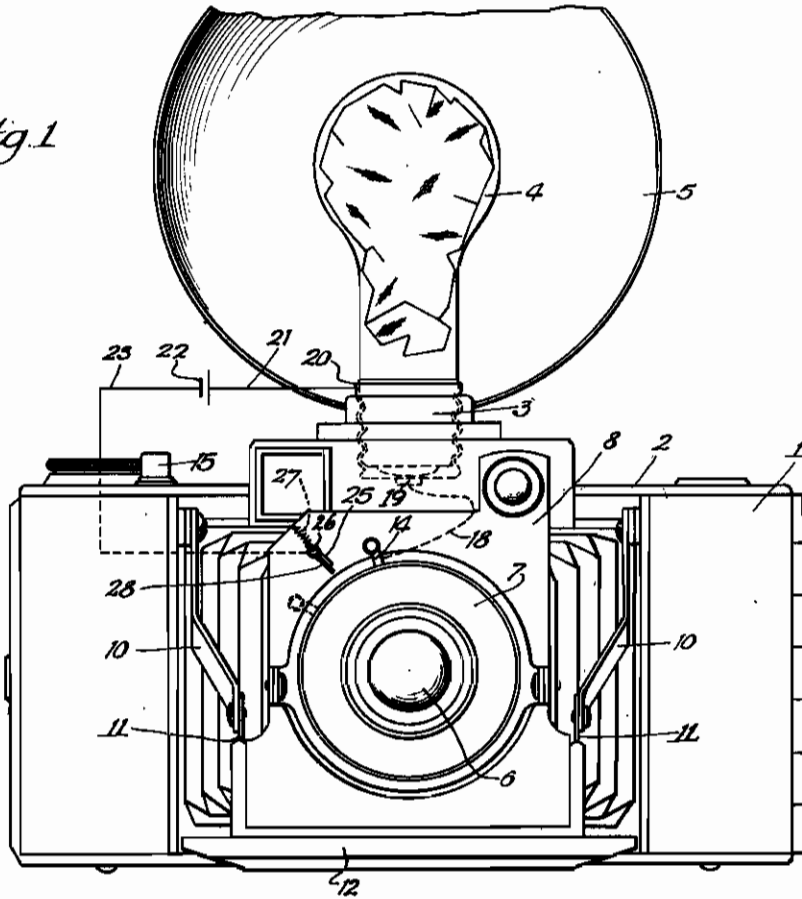


Fig. 2

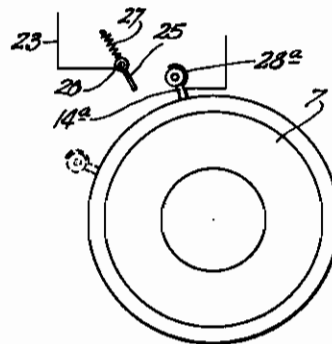


Fig. 3

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The invention relates to improvements in photographic cameras and particularly is directed to a camera provided with a flash synchronizer adapted to close the electric circuit of a flash bulb during the time the shutter of the camera is open.

It is an object of the present invention to provide a camera with a flash synchronizer whose electric circuit is closed by the shutter tensioning lever when the latter upon release of the shutter returns to its initial position.

Another object of the invention is to prevent a closing of the electric circuit of the flash synchronizer when the shutter tensioning lever is actuated to tension the shutter.

Other objects of the invention will be apparent or will be specifically pointed out in the description forming a part of this specification, but the invention is not limited to the embodiments of the invention herein described, as various other forms may be adopted within the scope of the claims.

In the drawing:

Fig. 1 is a front elevation view of a rollfilm camera with a flash synchronizer attached thereto and the shutter in tensioned position, the electric circuit of the flash synchronizer being illustrated diagrammatically.

Fig. 2 illustrates another embodiment of the circuit closing means controlled by the shutter tensioning lever, and

Fig. 3 illustrates still another embodiment of the circuit closing means of the flash synchronizer.

Referring to Fig. 1, the camera casing 1 has attached to its upper wall 2 a socket 3 for the reception of a flash bulb 4 in rear of which is arranged the customary reflector 5.

The camera objective 6 is mounted together with the shutter casing 7 on the customary support 8, the so called lens board, which in the present case is automatically moved into operative position by the pivotally connected braces 10 and 11 when the camera cover 12 is opened. The shutter in the shutter casing 7 is tensioned by an outwardly extending lever 14 when the latter is moved from the dash and dotted line position into the position illustrated in full lines in the Figs. 1 to 3. The shutter release member in the illustrated embodiment of the invention has the form of a push-button 15 mounted on the camera casing 1. As is customary in shutters of this type upon depressing the button 15 the previously tensioned shutter is released and exposes the film in rear of the objective 6. Dur-

ing this exposure movement of the shutter the shutter tensioning lever 14 returns to its initial position indicated in dash and dotted lines in the various figures.

In accordance with the present invention the shutter tensioning lever 14 is electrically conductively connected, as diagrammatically indicated by the line 18 with one of the two terminals of the socket 3, for instance the center terminal 18. The other terminal of the socket 3, in the present instance the screw-threaded shell 20, is connected by a conductor 21 with one pole of a battery 22, the other pole of which by means of an electrically conductive connection 23 is connected with a rotatably mounted contact member 25. This contact member 25 is rotatably mounted at 26 on the lens board 8 and normally projects into the path of movement of the shutter tensioning lever 14 and is yieldingly maintained in this position by a spring 27. When the shutter is released, the shutter tensioning lever 14 during its return movement, from the position shown in full lines to the position indicated in dash and dotted lines, will strike and rotate the contact member 25 and thus close the electric circuit 18, 19, 4, 20, 21, 22 and 23 and sets off the flash. When the shutter tensioning lever 14 reaches its initial position, it is out of engagement with the contact member 25 which is returned by the spring 27 to its normal position indicated in Fig. 1.

In order to prevent a closing of the electric circuit of the flash synchronizer when the shutter tensioning lever 14 is actuated to tension the shutter, the rotatably mounted contact member 25 is provided on that side which faces the shutter tensioning lever 14 in the released position of the shutter with an insulating plate 28 which projects a small distance beyond the outer edge of the contact member 25. It thus will be obvious that during the tensioning movement of the shutter tensioning lever 14 the latter will engage the insulating plate 28 and will rotate the contact member 25 anti-clockwise, while on its way toward the position where the shutter is tensioned, without conductively engaging the contact member 25 and without closing the electric circuit.

The same result, namely a prevention of the closing of the electric circuit of the flash synchronizer during the tensioning of the shutter is obtained when the insulating plate is fixedly attached to the outer end of the shutter tensioning lever. Such a modification is illustrated in Fig. 3, according to which that side of the shutter

tensioning lever 14^a which in shutter release position faces the rotatably mounted contact member 25 has attached thereto an insulating plate 28^a which prevents a conductive contact with the contact member 25 when the shutter is tensioned. A conductive contact between the contact member 25 and the shutter tensioning lever 14^a is only then established when the exposed metallic side of the latter engages the contact member 25 during the exposure movement of the shutter, i. e. when the shutter tensioning lever 14^a returns to its initial position indicated in dash and dotted lines in Fig. 3.

Fig. 2 illustrates another modification of the means for preventing a closing of the electric circuit of the flash synchronizer during the tensioning of the shutter. In this embodiment of the invention the contact member 25^b is mounted electrically insulated on the lens board and the electric conductor 23 of the circuit of the flash synchronizer is conductively connected to a yielding contact member 30 which normally is spaced from the rotatable contact member 25^b. The arrangement is such that during the release of

the shutter the shutter tensioning lever 14 during its return movement will rotate the contact member 25^b clockwise as herebefore, but the electric circuit is closed only when the contact member 25^b engages the yielding contact member 30. When the shutter tensioning lever 14 is again moved into its shutter tensioning position, the rotatable contact member 25^b will be rotated anti-clockwise i. e. in a direction away from the yielding contact member 30. It thus will be seen that the circuit of the flash synchronizer will not be closed during the tensioning of the shutter.

While in the described embodiments of the invention the rotatable contact member is mounted on the customary lens support of the camera, it is also possible and within the scope of the present invention to mount the rotatable contact member on the shutter casing or on a portion thereof in such a manner that the contact member will be actuated by the shutter tensioning member substantially as described.

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