Jan. 28, 1941. A. E. NICASTRO 2,229,816

FLASHLIGHT CIRCUIT CLOSER FOR CAMERAS

Filed Feb. 24, 1938

Fig. 1

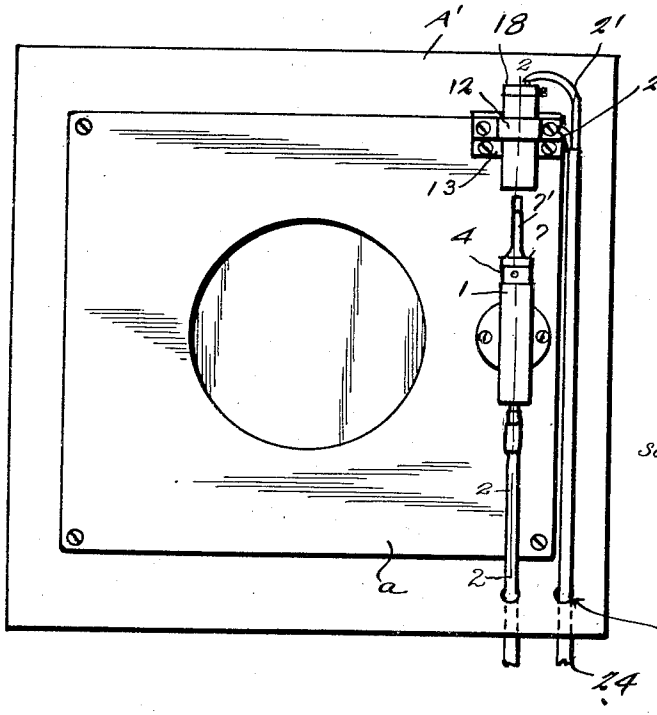


Fig. 2

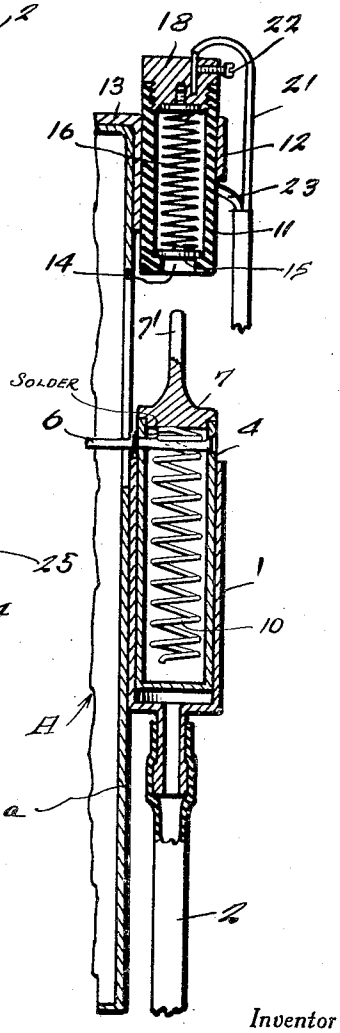
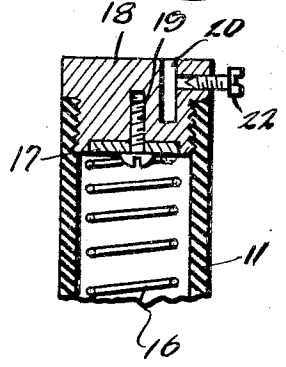


Fig. 3.



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FLASHLIGHT CIRCUIT CLOSER FOR CAMERAS

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2 Claims. (Cl. 200—82)

This invention relates to a flashlight circuit closer for cameras, the general object of the invention being to provide means for closing the circuit of a flashlight when the shutter of a camera is manipulated to open the camera so that the flash will occur simultaneously with the opening of the shutter.

Another object of the invention is to so construct and arrange the attachment that it can be easily placed on a camera and without detracting from the appearance of the camera and to make it usable with various types of flashlights now on the market.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a rear view of the shutter carrying plate of a camera with the invention attached thereto.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a sectional view through the upper part of the cylinder which forms part of the invention.

As shown the camera has at its front the panel A' which carries the shutter mechanism which includes a metal plate *a* connected to the rear face of the panel as shown in Figure 1. The operating means includes the cylinder 1 attached to the plate *a* with its top open and its bottom being connected by a flexible tube 2 with the usual operating bulb, not shown. A tubular piston 4 is slidably arranged in the cylinder 1 and has a transverse pin 6 passing through its upper end which engages a part of the shutter actuating means so that when the cylinder receives air from the bulb the piston 4 moves upwardly and the pin 6 actuates the shutter. These parts are of the usual or any desired construction and form no part of my invention.

In carrying out my invention I provide a cap 7 for the upper end of the piston 4, the cap extending upwardly to form the plunger 7' and said cap has a coiled spring 10 connected therewith and by turning the cap the spring 10 will be engaged with the pin 6 and by further turning movement of the cap the spring will move downwardly on the pin until a point is reached where the cap is tightly engaged with the top of the piston. A second cylinder 11 formed of non-conductive material is fastened by a metal clamp 12 to an angle bracket 13 attached to the plate *a* at the top thereof, the parts being so arranged that the cylinder 11 is arranged above the piston 4 so that as the piston 4 is raised by pressure upon the camera bulb the plunger 7' will enter a hole 14 in the bottom of the cylinder 11 and contact a metal plate 15 which is normally held resting on the bottom of the cylinder 11 by a spring 16 in the cylinder 11 and which has its upper end contacting or fastened to a metal plate 17 fastened to the bottom of a metal cap 18 by a screw 19. This cap 18 is threaded in the upper end of the cylinder 11 and has a socket 20 therein for receiving one end of a conductor 21 which is held in the socket by a screw 22. A second conductor 23 is fastened to the clamp 12, as shown in Figure 1, and these two conductors are enclosed in the usual tubular covering 24 which passes through a hole 25 in the bottom of the panel A', the conductors being connected to any form of flashlight device to operate the same when the circuit is closed.

Thus it will be seen that when the camera bulb is pressed, air will flow into the cylinder 1 to raise the piston 4 which causes the pin 6 to open the shutter and this raising of the piston will cause the plunger 7' to contact the plate 15, which may raise against the action of the spring 16, and as the plate 15 is electrically connected by the spring 16 with the plate 17 which is carried by the metal cap 18, electrically connected with the flashlight device, the circuit to such device will be closed and thus the bulb of the flashlight device will be ignited. Thus the flash will occur practically simultaneously with the opening of the shutter. It will be seen that all of the parts excepting the plug 18, spring 16 and plate 15 are grounded so that when the plunger 7' touches the plate 15 the circuit will be closed.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What is claimed as new is:

1. In a circuit closer, a hollow cylindrical member vertically arranged and formed of non-conducting material and having an opening in its bottom of less diameter than the interior diam-

eter of the cylindrical member, a metal cap closing the upper end of the cylindrical member and having a socket therein for receiving a conductor, a disk fastened to the inner face of the cap, a coil spring in the cylindrical member and having its upper end contacting the disk and a disk connected with the lower end of the spring and normally resting on the bottom of the cylindrical member and closing the bottom opening and adapted to be engaged by a movable contact member.

2. A contact engaging attachment for a camera shutter operating piston having a pin passing across its upper portion, said attachment comprising a cap having a portion fitting in the upper end of the piston and provided with an upwardly extending contact engaging part and a coiled spring connected with the bottom of the cap and adapted to engage the pin for detachably connecting the cap to the piston.

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