April 1, 1952 N. D. GHEORGHIU 2,591,419

FLASHLIGHT WITH MOVABLE VARICOLORED LIGHT FILTER

Filed Aug. 5, 1949 2 SHEETS--SHEET 1

Fig. 1.

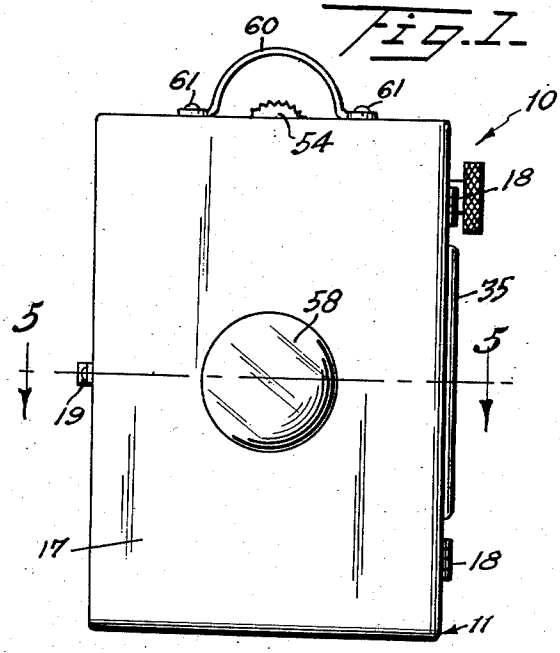


Fig. 2.

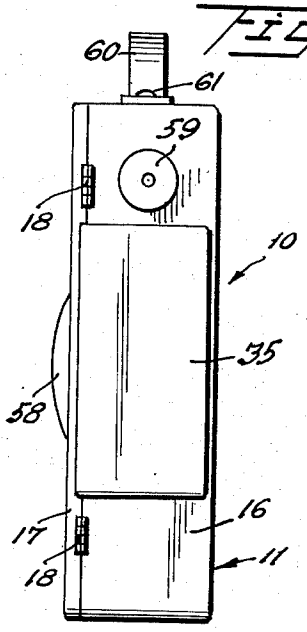
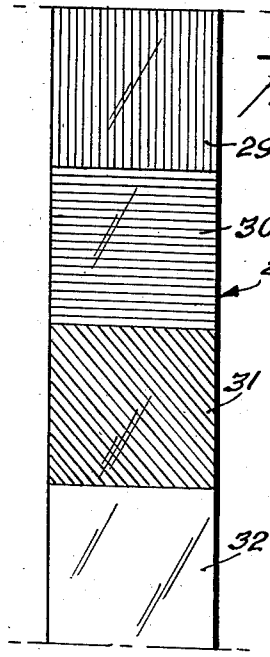


Fig. 7.



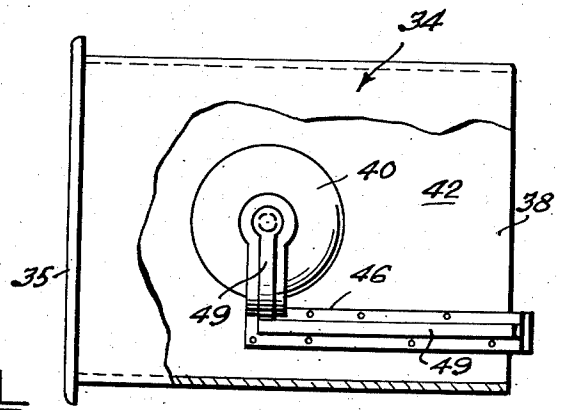


Fig. 6.

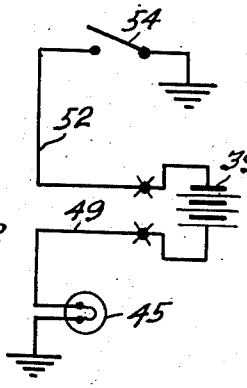


Fig. 8.

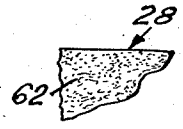


Fig. 9.

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Fig. 3.

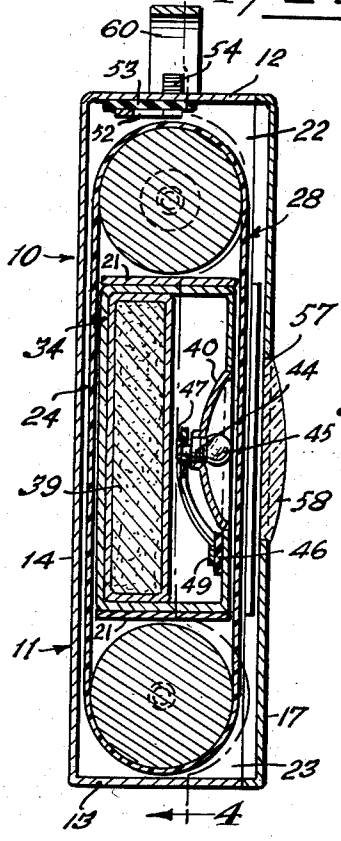


Fig. 4.

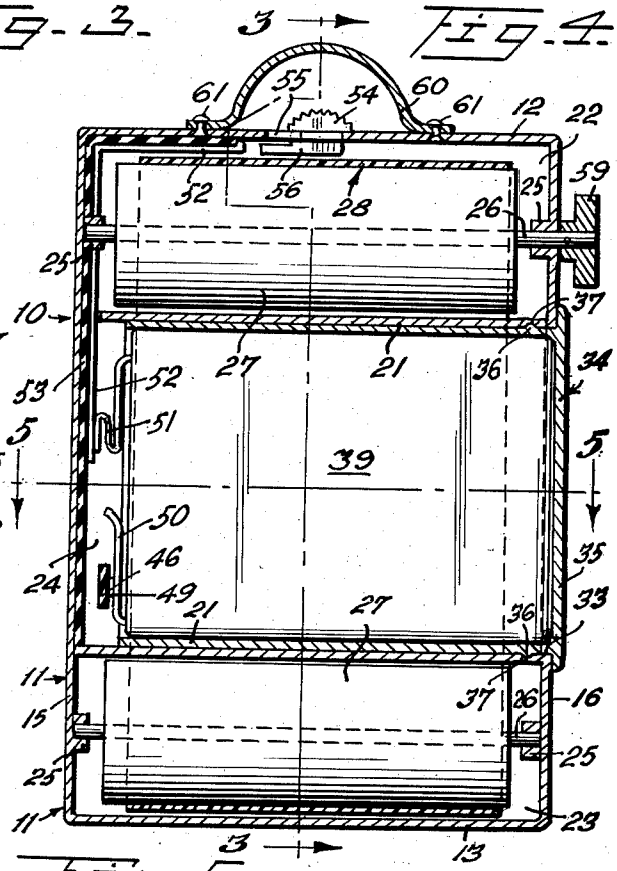
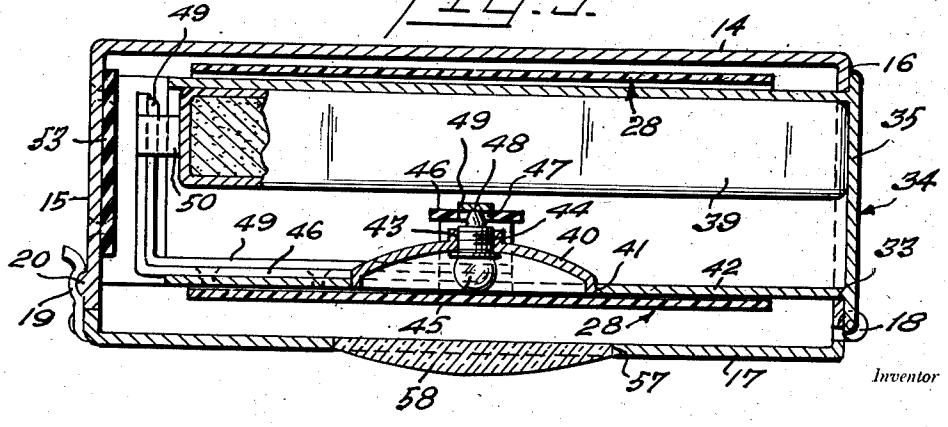


Fig. 5.



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FLASHLIGHT WITH MOVABLE VARI-COLORED LIGHT FILTER

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Application August 5, 1949, Serial No. 108,762

2 Claims. (Cl. 240—10.65)

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This invention relates to a novel construction of flashlight by which light rays of various colors may be emitted therefrom by a manual manipulation of a movable light filter or screen.

More particularly, it is an aim of the present invention to provide a flashlight which is very small and compact and which is constructed similar to a small collapsible type camera.

Still a further object of the invention is to provide a flashlight having a removeable battery, reflector and light bulb containing section to enable the quick and easy replacement of the battery or lamp bulb and which is provided with an electric circuit of extremely simple construction for energizing and de-energizing the light source.

Still a further object of the invention is to provide a flashlight having rollers journalled adjacent the ends thereof for movably supporting an endless member composed of transparent and translucent sections of various colors and which may be manually manipulated for positioning either a clear section of said endless member or a section of any desired color in front of the light source of the flashlight so that the light rays emitted therefrom will be colored to correspond to the color of the section of the endless member disposed over said light source.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a front elevational view of the novel flashlight;

Figure 2 is an edge elevational view thereof looking from right to left of Figure 1;

Figure 3 is an enlarged central sectional view of the flashlight taken substantially along a plane as indicated by the line 3—3 of Figure 4;

Figure 4 is a longitudinal sectional view of the flashlight taken substantially along a plane as indicated by the line 4—4 of Figure 3;

Figure 5 is a cross sectional view thereof taken substantially along a plane as indicated by either the line 5—5 of Figure 1 or Figure 4;

Figure 6 is a plan view partly broken away showing the removeable section of the flashlight;

Figure 7 is a plan view showing the endless member for filtering the light rays and illustrating said member as it would appear in an extended position;

Figure 8 is a diagrammatic view of the electric circuit of the flashlight, and

Figure 9 is a fragmentary plan view of a portion of the inner side of said endless member.

Referring more specifically to the drawings, the novel flashlight in its entirety and comprising the invention is designated generally 10 and includes an elongated case which is relatively thin and shaped similar to a collapsible type camera. Said case, designated generally 11, includes a top wall 12, a bottom wall 13, a rear wall 14, side walls 15 and 16 and a hinged front

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wall 17 which is hinged at 18 along one side edge thereof and which is provided with a spring latch 19 which projects from the other free side edge thereof for detachably engaging a stationary detent 20 on the outer side of the wall 15. The case 11 is provided with longitudinally spaced partitions 21 which are suitably secured to the side walls 15 and 16 and which are spaced from the rear wall 14 and hinged front wall 17, for a purpose which will hereinafter become apparent. The partitions 21 divide the case into corresponding upper and lower compartments 22 and 23, respectively, and a larger intermediate compartment 24. The side walls 15 and 16 support bearings 25 which extend into the compartments 22 and 23 for journalling the end portions of shafts 26, the intermediate portions of which extend through and are secured centrally in rollers 27, one of which is mounted rotatably in each of the compartments 22 and 23. The rollers 27 have an endless screen 28 trained thereover including sections 29, 30 and 31 of different colors, preferably red, blue and green, and a transparent or clear section 32. Said screen 28 passes through the compartment 24 adjacent its front and rear wall and has the flights thereof disposed beyond the side edges of the partitions 21, as best illustrated in Figure 3.

The side wall 16 is provided with a relatively large opening 33 for receiving a removeable section 34 which is removeably mounted in and substantially fills the intermediate compartment 24 and which is provided with a flanged end 35 which is disposed externally of the side wall 16 and by which the section 34 can be grasped for removing it from the compartment 24. The section 34 contains a projection 36 which releasably engages a depression 37 in the upper partition 21 for releasably latching said section in a fully inserted position in the compartment 24. The section 34 is closed except for the opposite, inner open end 38 thereof and is sized to contain a relatively large, substantially flat dry cell battery 39 which fills substantially one-half thereof and which extends from end-to-end of the section 34. A reflector 40 is disposed in the other half of the section 34 and is mounted at its open end in an opening 41 of the front wall 42 of the removeable section 34. The reflector 40 has an internally threaded bore 43 into which is threaded the base 44 of a light bulb 45 which is disposed in the reflector 40. A strip of electrical insulating material 46 is suitably fastened to and extends along the inner side of the front wall 42 and has one end thereof extending behind the reflector 40 and which is provided with an opening 47, as seen in Figure 5, to receive the end contact 48 of the light bulb 45. A strip of electrical conducting material 49 is suitably secured to the exposed side of the insulating strip 46 and has one end thereof disposed over the opening 47 and in contact with the contact 48 of the bulb 45. The opposite ends of the insulating strip 46 and conductor strip 49 extend transversely across the

open end 38 of the section 34 to engage one of the contacts 50 of the battery 39. The other contact 51 of the battery 39 engages a conductor strip 52 of electrical conducting material which is secured to a strip of electrical insulating material 53 and retained thereby out of contact with the case 11, said strip 53 and the conductor strip 52 extending upwardly along the side wall 15 and across a portion of the top wall 12 of the case 11, as seen in Figure 4. The battery contacts 50 and 51 are formed of spring metal and are thereby yieldably retained in engagement with the conductor strips 49 and 52. A manually actuated switch 54 is slidably mounted in an elongated opening 55 of the top wall 12 so that an internally disposed portion 56 thereof may be moved into or out of electrical contact with one end of the strip 52 for energizing or de-energizing, respectively, the light bulb 45, as will hereinafter be more fully described.

The hinged front wall 17 is provided with an opening 57 containing a lens 58 which is disposed directly in front of the reflector 40 and as seen in Figures 3 and 5, the endless screen or light filter 28 has a portion disposed between the reflector and lens.

One end of the shaft 26 of the upper roller 27 projects outwardly from the sidewall 16 and has a turning knob 59 secured thereto. A carrying handle 60, formed of a flexible material such as a strip of leather, is fastened at its ends by fastenings 61 to the top wall 12 to provide an externally disposed hand receiving loop which is preferably positioned over the switch 54.

From the foregoing it will be readily apparent that when the switch 54 is moved from right to left of Figure 4 to make electrical contact between its portion 56 and the conductor strip 52 the current will flow from the battery 39 to the light bulb 45 for energizing said bulb, as illustrated diagrammatically in Figure 8, the case 16 forming a ground between the switch 54 and the light bulb base 44 through the reflector 40 and the wall 42, both of which parts and the case are of electrical conducting material. The light rays from the bulb 45 will be emitted through the screen or filter 28 and lens 58 and will be colored in passing through the screen or filter 28 when one of the sections 29, 30 or 31 thereof is disposed in front of the reflector or will be uncolored if the clear section 32 is positioned in front of the reflector. By manually turning the knob 59, the upper roller 27 will be revolved for moving the endless filter or screen 28, the lower roller 27 being revolved thereby as an idler, so that any one of the sections 29, 30, 31 or 32 thereof may be positioned in front of the light bulb. It will also be readily apparent that the endless filter or screen 28 could be provided with additional sections of other colors, if desired. The inner side of the endless filter or screen 28, adjacent its side edges is preferably coated with a rough material as indicated at 62 in Figure 9 to afford a better gripping engagement with the upper roller 27 and to prevent slippage of the endless member 28 relatively thereto. The front wall 17 may be unlatched and swung to an open position to expose the interior of the flashlight 10 but this is unnecessary for replacing the battery or lamp bulb which is readily accomplished by merely withdrawing the section 34 from the center compartment 24 so that the battery and lamp bulb can be quickly and easily removed and replaced after which the section 34 is re-applied through

the opening 33 and latched in an applied position by the portions 36 and 37.

Various modifications and changes are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A flashlight comprising an elongated, relatively flat case having a top wall, a bottom wall, a front wall, a rear wall and side walls, partitions extending between said side walls and spaced from the front and rear walls and dividing the case into upper, lower and intermediate compartments, a roller journalled in each of said upper and lower compartments, an endless light filter or screen trained over said rollers and extending along the front and rear walls on the inner sides thereof and having longitudinally spaced translucent sections of different colors and a transparent section, one of said side walls having an opening communicating with the intermediate compartment, a section removeably positioned in said intermediate compartment and constituting a container having an open end disposed adjacent the other side wall of the case when said section is in a fully applied position, a dry cell battery mounted in said container section, a reflector mounted in the container section and opening outwardly of one wall thereof and toward the front wall of the case, said front wall having an opening provided with a lens disposed in front of said reflector, a light bulb mounted in the reflector, a conductor strip engaging one contact of the light bulb and one contact of the battery and supported by the container section and insulated therefrom, a manually actuated switch slidably mounted on said case and in electrical contact with the other contact of the light bulb, a conductor strip supported within the case and insulated therefrom and having a portion in electrical contact with the other contact of the battery and another portion thereof disposed to be contacted by the switch in one position thereof for energizing the light bulb, said switch being movable out of engagement with the last mentioned electrical conductor for de-energizing the light bulb, said endless filter or screen having a portion disposed between the reflector and lens, and means for manually revolving one of the rollers for moving different portions of the filter or screen into a position in front of said reflector.

2. A flashlight as in claim 1, and means releasably latching the container section in a fully applied position in the intermediate compartment of said case for retaining one of the contacts of the battery in engagement with the last mentioned case supported conductor strip.

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