July 24, 1951 B. MUIR 2,561,532

FLASHLIGHT

Filed May 3, 1946

Fig. 2.

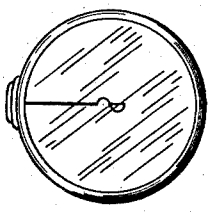
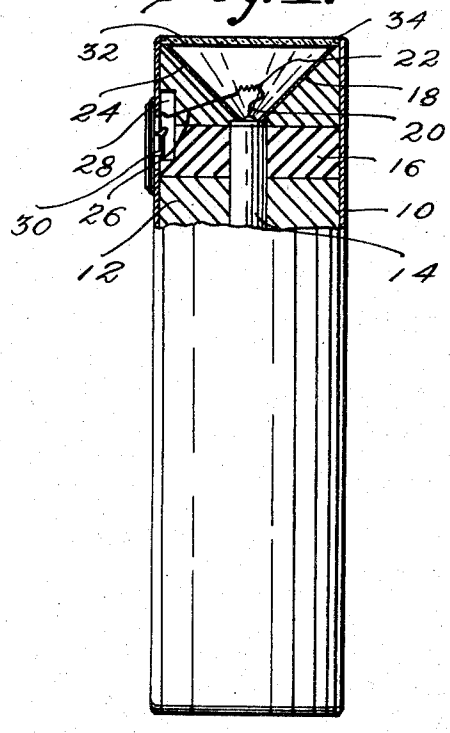


Fig. 1.



INVENTOR.

Brockett Muir

BY

Richard L. Underwood

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FLASHLIGHT

Brockett Muir, Olney, Md.

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1 Claim. (Cl. 240—10.61)

1

This invention relates to electric flashlights and particularly to an improved construction wherein all essential component elements are embodied in an integral structure.

Among the objects of the invention is simplicity of the conventional hand-operated lamp to reduce its cost of manufacture without in any way adversely affecting the efficiency of its operation. Another object of the invention is to provide a unitary structure which may be discarded in its entirety whenever there is failure of the filament or exhaustion of the battery and an entirely new unit substituted at no greater cost than is ordinarily necessary to supply a new source of electricity.

Still another object of the invention is to prolong the useful life of the battery by reducing the resistance in circuit which frequently develops through corrosion of the metal casing or of the conducting elements of a plastic casing. Frequently the circuit through lamps of the conventional type is broken by faulty contact of the lamp bulb. Sometimes this is due to distortion of the socket in which the bulb is received and often it is attributable to loosening of the bulb in its socket as a result of vibration. In either event it becomes necessary to partially disassemble the lamp to correct the fault. My invention eliminates this objectionable feature altogether.

These and various other objects of the invention are obtained by integrating the essential functional elements of the usual assembly in such manner that certain parts thereof are rendered unnecessary and others perform a dual function.

The manner in which these objects and other meritorious features are obtained is described herein in conjunction with the drawings, wherein like numerals refer to like parts throughout the several figures, and wherein:

Fig. 1 is an elevation partly in section of the improved construction, and

Fig. 2 is a plan view.

The use of the zinc sheathing or casing of an ordinary dry cell battery as one of the electrodes of a circuit wherein the center carbon constitutes the other electrode is by no means novel. My arrangement embodies this type of construction in a form modified to adapt it to the basic novel features now about to be described.

Referring to the drawings, the open-ended zinc casing or sheathing **10** is partially filled with electrolytic paste **12** and an inner electrode **14** is positioned axially in the customary fashion. A filler **16** of pitch seal or sealing cement is deposited in the casing over the electrolytic paste. In the form illustrated filler **16** is in the form of a disc through the opening of which the electrode **14** projects slightly. Immediately above filler **16** is an additional filler, which may also be any suitable sealing cement such as pitch seal, which is conically recessed as indicated at **18** and provided with an opening at the apex of the conical recess through which the support **20** of filament **22** extends. The free end of filament support **20** is secured to or anchored in the upper end of electrode **14**.

2

The face of conical recess **18** is provided with some suitable type of reflecting surface such as metallic foil **24** and the other support **26** of filament **22** is embedded in the sealing material throughout a major portion of its length.

The filler material is recessed at one margin as indicated at **28** to permit sliding movement of a switch element **30** which makes contact at one limit of its sliding movement with the free end of filament support **26** which extends into the recess for this purpose. Of course it should be understood that a different type of manually operable switch element could be used, such as a button contact movable against a spring bias into contact with support **26**.

A protecting glass or lens **32** is held in position at the open end of the casing **10** in some suitable fashion, such as by crimping over the extreme margin of the casing as indicated at **34**. The recess within which the filament is thus positioned may be evacuated in customary fashion and glass **32** is suitably sealed against the atmosphere.

The construction described eliminates the need for a lamp bulb by incorporating the filament and its supports integrally in the assembly. Seating filament support **26** in the seal material at the top of the casing and permitting its free end to extend into the recess wherein contact is made by switch member **30** enables the member **26** to perform the function of both a filament support and a switch contact member. By eliminating the need for a bulb and obtaining a dual function for the filament support to simplify the switch construction, the cost of manufacture is substantially reduced without in any way affecting adversely efficient operation of the assembly.

While I have illustrated separate filler units at the top of the casing as a suggestion for manufacturing simplicity, it will of course be understood that this filler may be integral. It should

also be understood that the outer face of the casing may be treated in any manner to obtain a desirable decorative effect and that the finished structure could be made to look very much like the metal or plastic casings which in conventional constructions house the various separate units of the assembly such as lamp bulb, reflector, replaceable batteries, etc.

While a specific embodiment of my invention has been described and illustrated herein, it will be understood that the construction is susceptible to various modifications falling within the scope of the appended claim and for that reason I wish to be limited only by such claim.

What I claim is:

A flashlight comprising an open-ended outer electrode casing and an inner electrode, a filler seal within said casing adjacent the open end thereof and having a conically recessed outer surface, the apex of said recess being open and in axial alignment with the inner electrode to permit communication therewith, a reflective surface lining the recess, a continuous wire conductor including an intermediate filament portion and filament supporting end portions, said filament portion being axially disposed within

the conical recess adjacent the reflecting surface, one end portion forming a connection with the inner electrode through the apex opening in the recess and the other extending through the filler seal with its free end exposed to form a contact, a contact element movably associated with the casing and the free end of said end portion, a transparent covering seated upon the base margin of said recess in spaced relation to said reflecting surface, and means for securing the same in seated position.

BROCKETT MUIR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,200,366	Kerlin	Oct. 3, 1916
1,712,996	Hoffman	May 14, 1929
1,906,188	Smally	Apr. 25, 1933
1,981,544	Frech et al.	Nov. 20, 1934
1,988,961	Prideaux	Jan. 22, 1935
2,255,516	McEachron et al.	Sept. 9, 1941
2,387,144	Gey	Oct. 16, 1945