April 10, 1945. G. R. FUSS 2,373,390

PORTABLE ELECTRIC LIGHTING DEVICE

Filed Feb. 3, 1944

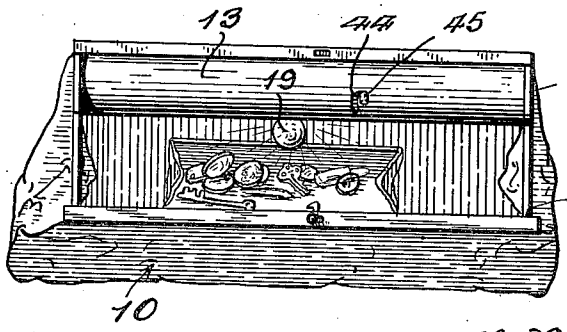

Fig. 1.

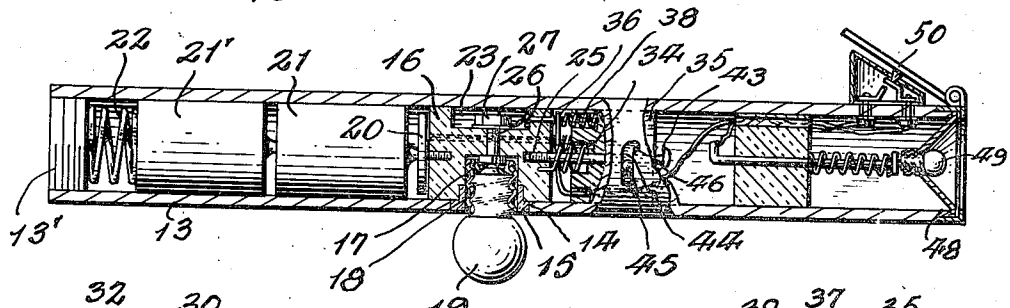

Fig. 2.

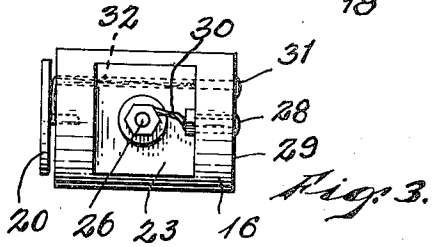

Fig. 3.

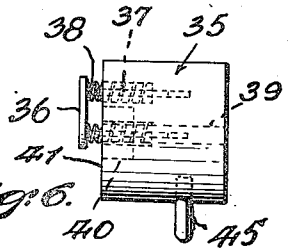

Fig. 6.

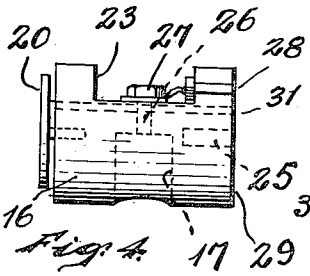

Fig. 4.

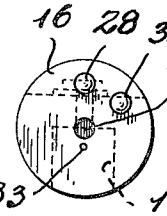

Fig. 5.

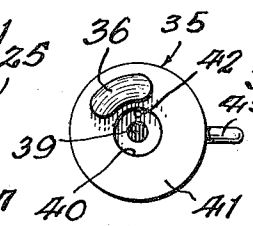

Fig. 7.

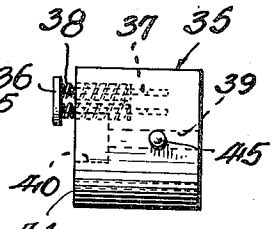

Fig. 8.

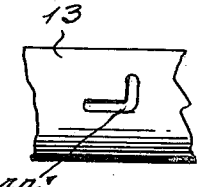

Fig. 11.

Fig. 10.

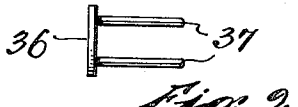

Fig. 9.

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UNITED STATES PATENT OFFICE

2,373,390

PORTABLE ELECTRIC LIGHTING DEVICE

George R. Fuss, Philadelphia, Pa.

Application February 3, 1944, Serial No. 520,942

2 Claims. (Cl. 240—10.6)

The invention relates to portable electric lighting devices operated by dry cell batteries. It is particularly designed for use as a permanent part in ladies' hand bags, travelling bags, physicians' and surgeons' medicine and tool cases, or the like, to illuminate the interior of small receptacles, and in addition to afford utility as a search light for illuminating areas exteriorly of a portable receptacle upon which it is installed.

It is an important object to present a novel portable lighting device and light mounting specially adapted to use in a housing incorporated in a hand bag or the like.

It is an important aim also to present a portable lighting device construction for such use which is manually operated to open the circuit to the lamp illuminating the interior of the bag or other receptacle.

It is a further object of the invention to provide a novel construction of portable lighting device in which means are provided for effectively holding the switch in its operative or energized position or in its inoperative position.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention, as will appear from the following description and accompanying drawing, wherein

Figure 1 is a top view of an open hand bag in which my switch is incorporated.

Figure 2 is a fragmentary longitudinal sectional view of the battery, lamp, and switch housing.

Figure 3 is a top view of the socket mounting block.

Figure 4 is a side elevation thereof.

Figure 5 is an end elevation thereof.

Figure 6 is a side elevation of the switch contactor.

Figure 7 is an end elevation thereof.

Figure 8 is a top plan view of the contractor.

Figure 9 is a detail of the switch contact.

Figure 10 is a detail side elevation of the main spring of the switch.

Figure 11 is a fragmentary plan view of a modified form of detent slot for the contact block.

There is illustrated a hand bag 10 which may be of any usual material and in any desired shape, as to the bag portion proper. The bag has an opening therein defined by bails 11 and 12, secured in the usual manner and to and between the ends of the bail 12 there is a battery and lamp case 13.

The battery and lamp case 13 is of cylindrical shape and of a length to fit snugly between the bail members 12. Intermediate the length of the case 13 there is an opening 14 suitably insulated by a bushing 15 and within the case there is mounted a switch block 16. The block has a recess 17 in registry with the opening 14 of the case and receives a lamp socket 18 for removably mounting a bulb 19. It will be noted that the bushing 15 is seated within the recess 17 maintaining the block in proper position.

The block 16 has a central contact 20 adapted to form an electrical contact with the positive pole of a dry cell 21, grounded to the case, and preferably two cells are employed, arranged in tandem fashion, as is well understood, the cell 21' being positioned in advance of a spring 22 interposed between the cell and the screw plug 13' of the case, and by this construction, the batteries 21' and 21 will be held in positive contact with the central contact 20.

The block 16 is formed with a recess 23 diametrically opposite to the recess 17 and a binding post 26 is extended through a suitable opening formed in the block 16, one end being positioned in the recess 17 to form a contact with the base of the bulb and the other end of the post is threaded to receive a nut 27. The recess 23 is of a depth such as to house the nut and thus permit ready insertion of the block within the case 13.

A contact 28 is fixed to the end 29 of the block 16 and includes a wire 30 for connection with the binding post 26. A similar contact 31 is also mounted in the end 29 of the block and has a wire or other connection 32 extended through the block for electrical connection with the contact 20, as clearly shown in Figure 3.

The end 29 of the block is axially tapped, as at 25, and also has a small aperture 33 for reception of one end of a helical spring 34, as will be described hereinafter.

A rotary switch generally indicated by the reference character 35 is mounted in and grounded to the case 13, and includes a spring-pressed contact shoe 36 adapted to engage contacts 28 and 31 in one position of its movement. The contact shoe in the present instance, is of arcuate shape, as may be seen in Figure 7, and the contacts 28 and 31 will be so positioned that a smooth wiping engagement may be had. As shown, the shoe 36 has a pair of pins 37, the ends of which are slidably engaged in apertures of the switch body, and preferably the body is recessed, forming a seat for one end of a helical spring 38, the other end of the spring bearing upon the shoe. The springs thus function to

move the shoe outwardly away from the switch body into engagement with the end 29 of the switch block and the contacts 28 and 31, as the case may be.

The switch body is axially bored as at 39, terminating in an enlarged recess 40, at the end 41 thereof. Within the base of the recess 40 an aperture 42 is formed, receiving the other end of the helical spring 34, and in order that switch 35 may be maintained in assembled relation upon the block 16 a screw 43 is engaged through the bore 39 and threadedly engaged in the tapped opening 25.

The case 13 has a bayonet slot 44 through which a pin 45 projects for the purpose of rotating the switch 35 into operative or inoperative position, the former position being shown in Figure 2. In the inoperative position the pin 45 would occupy the recessed portion 46 of the slot, and obviously, when the switch is moved to such position the spring 34 is tensioned and the shoe 36 moved from contacting engagement with contacts 28 and 31. As soon as the pin 45 is moved out of the recess 46, the spring immediately rotates the block to again bring the shoe and contacts into operative position for energization of the bulb 19.

For the purpose of exterior lumination of the bag 10, the case 13 is open-ended at the end 48. The case houses a bulb 49, and a switch 50 is mounted upon the exterior of the casing, for controlling energization of the bulb. This structure is fully disclosed in my Patent No. 2,187,308, and since it forms no part of the present invention, a detailed description thereof is not essential.

In Figure 11 I have illustrated a modified form of the bayonet slot 44'. In this instance, the slot extends longitudinally of the case 13 and would require that the switch 35 move longitudinally of the case.

While I have shown and described a preferred construction, this is by way of illustration only, and I consider as my own all such modifications in structure as fairly fall within the scope of the appended claims.

I claim:

1. A portable lighting device of the character described comprising a case having an opening intermediate its length, a switch block within the case and having an opening in registry with the opening in the case, a bushing in the registered openings for maintaining the switch block within the case, a lamp socket mounted in the opening of the switch block, a battery in the case and grounded thereto, a rotary switch within the case and grounded thereto, a contact on the switch block in positive engagement with the battery, a contact on the other end of the switch block and electrically connected to the first named contact, a second contact on said end electrically connected to the lamp socket, said switch being rotatably mounted to said switch block and having a spring-pressed contact shoe for engagement with said last two named contacts, a helical spring connected between the rotary switch and switch block to rotate the switch to operative position, said casing having a bayonet slot, and an operating pin fixed in the rotary switch and projected through the slot.

2. A portable lighting device of the character described comprising a case having an opening intermediate its length, a switch block within the case and having an opening in registry with the opening in the case, a bushing in the registered openings for maintaining the switch block within the case, a lamp socket mounted in the opening of the switch block, a battery in the case and grounded thereto, a rotary switch within the case and grounded thereto, a contact on the switch block in positive engagement with the battery, a pair of contacts on the switch block electrically connected to the first named contact and lamp socket respectively, contacts on the rotary switch cooperable with the pair of contacts to complete the circuit to the battery in one position of the switch, spring means to hold the rotary switch in operative position and said case comprising means cooperable with the switch for maintaining the switch in a releasable inoperative position.

GEORGE R. FUSS.