Jan. 8, 1957 A. J. LUCHANSKY 2,777,051

UMBRELLA HANDLE LIGHT

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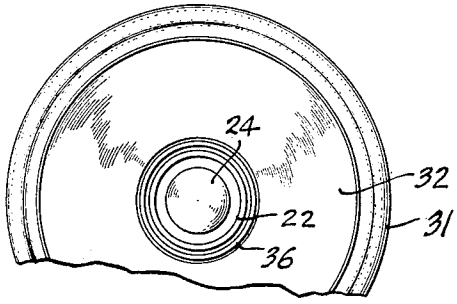

Fig. 2.

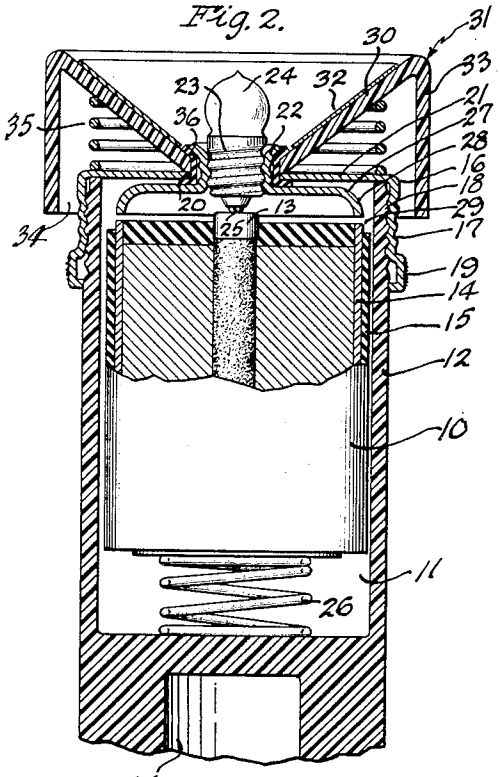

Fig. 1.

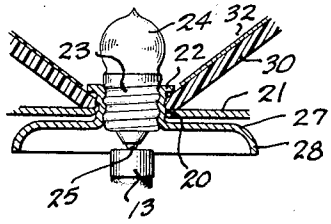

Fig. 3.

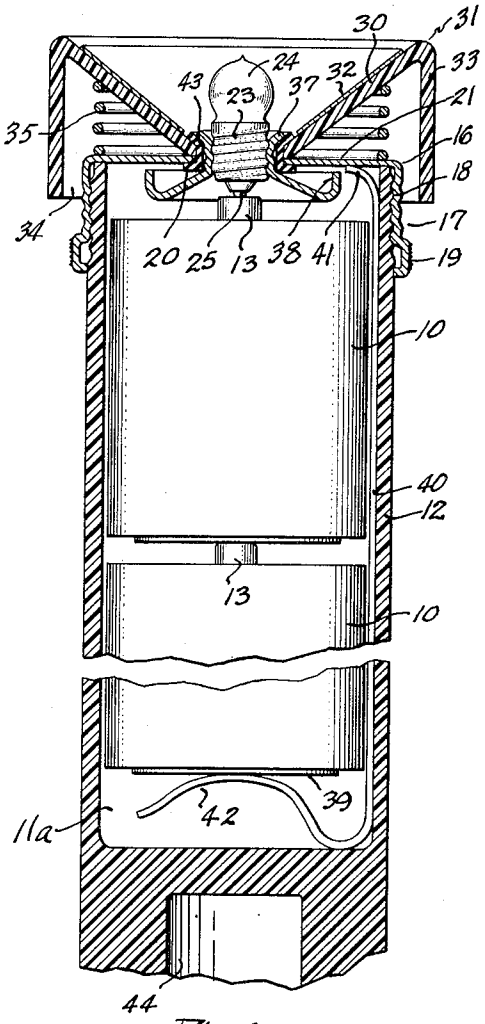

Fig. 4.

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UMBRELLA HANDLE LIGHT

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6 Claims. (Cl. 240—6.42)

This invention relates to a flashlight or hand light, and one that is designed primarily for use as an umbrella handle, although it is also adapted for use as an ordinary hand or flashlight.

An object is to provide an improved construction of this type of device which may employ a plastic or insulating shell or casing, and this shell or casing may be employed as the handle of an umbrella or similar device to readily provide an effective illuminating means for use by a person carrying an umbrella in a storm at night, for example.

Another object is to provide an improved construction and arrangement whereby the circuit to the lamp bulb may be controlled by a slight rocking movement of the enclosure or head carrying the reflector, thus doing away with the ordinary finger switch used in flashlight construction.

With the foregoing and other objects in view, I have devised the construction illustrated in the accompanying drawing forming a part of this specification. It is, however, to be understood the invention is not limited to the specific details of construction and arrangement shown, but may embody various changes and modifications within the scope of the invention.

In this drawing:

Fig. 1 is a longitudinal section showing one form of the device;

Fig. 2 is a top edge view thereof;

Fig. 3 is a detail section showing a slight modification, and

Fig. 4 is a section similar to Fig. 1 showing another modified construction.

Referring first to Figs. 1 and 2, there is shown in these figures an arrangement using a single battery **10** in the chamber **11** formed in the casing **12** preferably of suitable molded plastic material, this casing being open at its upper end for free access to the socket or chamber **11** for insertion and removal of the battery. The battery **10** is of the usual type comprising the central contact **13** and the metal shell **14** enclosed in the outer casing **15** of the usual fibrous insulating material. The open end of the shell or casing **12** is closed by a metal cap **16** including a threaded flange **17** screw threaded on suitable threads **18** on the outer surface of the casing, and at its open end it may be roughened or knurled, as indicated at **19**, to provide a better hand grip in applying it to or removing it from the plastic casing **12**.

This cap **16** has a central opening **20** in its top wall **21** in which is mounted a metal lamp socket **22** of any suitable type, but preferably of the screw shell type of socket into which the screw shell contact **23** of the lamp bulb **24** may be threaded, so that the central contact **25** of this bulb engages the central contact **13** of the battery, the battery being normally held against the contact by any suitable type of spring **26**, between the lower end of the battery and the bottom of the socket in the chamber **11**. At its lower end the screw shell or lamp socket **22** is provided with an outwardly extending disc **27** having a downwardly extending flange **28** at its outer edge forming a circular electrical contact located over the top edge **29** of the zinc shell **14** of the battery and normally spaced

from it as shown. The screw shell **22** also extends through an opening at the center and bottom of the tapered wall **30** of the plastic cap or head **31**, the bulb **24** being in the cavity formed by this tapered wall, and the upper surface may be provided with a light-reflecting surface **32**. At its upper outer rim this cap or head has an outer wall or skirt **33** which extends down over and surrounds the upper portion of the cap **16**, leaving the lower portion exposed so it may be readily gripped for application to or removal from the casing, and is spaced therefrom, as indicated at **34**, to permit limited relative rocking movement of the head **31** with respect to the cap. Between this cap **16** and the under side of the tapered wall **30** is a light coil spring **35** which holds the head **31** in the normal central position with respect to the cap **16**, and thus holds the screw shell **22** and its flange **28** horizontally with the rim of this flange spaced from the upper edge **29** of the metal shell **14** of the battery. The shell or socket **22** may be mounted in the opening in the wall **30** and the end wall **21** of the cap **16** by means of an insulating sleeve **36** as shown in Fig. 1, or directly in these openings as shown in Fig. 3, but it is mounted sufficiently loose in the opening **20** in the cap **16** so that the head **31** and the lamp socket or shell **22**, together with the circular electrical contact **28**, have limited rocking movement with respect to the casing **12** and the cap **16**, while the central contact **25** of the lamp bulb remains in engagement with central contact **13** of the battery. The spring **35** holds the head **31** and the contact **28** in the centered or "off" position shown in Fig. 1, with the free edge of the contact **28** spaced from the end of the shell **14** of the battery, thus breaking the circuit through the lamp bulb. If the head **31** is tipped laterally in any direction, it brings the edge of the flange **28** into engagement with the upper edge **29** of the zinc shell **14** of the battery, thus closing the circuit through the light bulb and lighting it. As soon as the pressure on the head **31** is released, the spring **35** will return it to its normal central position and shift the circular contact **28** away from the battery shell **14** and open the circuit to put out the light. Thus no switch of the ordinary type is required, and to operate the lamp all that is necessary is to apply tipping or lateral pressure to the plastic head **31**.

It will thus be seen that control of the circuit through the lamp bulb is effected by movement of the head **31** and only very slight movement is required, as the edge of the circular flange or contact **28** need be spaced only a short distance from the edge **14** of the shell of the battery. It will, of course, be understood that the control of the circuit is by movement of the head **31** and the circular contact **28**, and the circuit from the battery through the lamp bulb may be closed either by the contact **28** engaging the shell of the battery directly or through an intermediate electrical conducting means. Such an arrangement is shown in Fig. 4, which may be used with one or more batteries **10**, two batteries being shown in Fig. 4 arranged in series. In this case the outer shell or casing **12** is provided with a somewhat larger socket or chamber **11***a* in which the batteries are located and its upper end is closed by the same metal cap **16** in which is mounted the lamp socket or shell **37** corresponding to the shell **22** in Fig. 1. In this case, however, as there are two batteries used, the circular flange or contact **38** forming a part of the lamp socket **37** and corresponding to the circular contact **28** of the first form, instead of being arranged to engage the free end of the metal shell **14** of the upper battery, is arranged to engage the cap **16** which is electrically connected with the metal shell of the lower battery. Therefore this flange forming the circular contact **38**, instead of being curved downwardly as in Fig. 1, is curved upwardly as shown in Fig. 4, with its free edge normally spaced a short distance from the

under side of the end wall 21 of the cap 16, and this cap is placed in electrical connection with the lower end 39 of the metal shell of the lower battery by a metal conducting strip 40 engaging the cap 16 at its upper end 41 having a curved spring lower end 42 engaging the metal shell 39 of the battery, and also acting as a spring means for supporting the batteries at the lower end of the socket 11*a* to retain the central contact 13 of the upper battery in engagement with the central contact 25 of the lamp bulb. In this arrangement, as the cap 16 is in electrical connection with one element of the battery, the lamp socket or shell 37 must be insulated from the cap 16, and this is shown as effected by the insulating sleeve 43, it, however, being understood that this sleeve is sufficiently loose in the opening in the cap 16 to permit the small amount of rocking movement required of the plastic head 31 to control the electric circuit through the lamp bulb. The rocking movement of this head in this case brings the free edge of the circular contact 38 into engagement with the under side of the top wall 21 of the cap 16, to close the circuit through the lamp bulb, and as soon as pressure on the head 31 is removed the spring 35 will shift this head and the contact 36 back to their normal central positions, with the free edge of contact 38 spaced from the cap 16 to thus bring it to its normal non-circuit-closing position.

If this device is used as the handle of an umbrella or the like, the outer shell or casing may be provided with a suitable socket 44 in its lower end to receive the end of the central rod of the umbrella for securing it thereto.

It will be seen from the above that this provides a very simple construction which may be used either as the handle of an umbrella or the like or as a regular type of flashlight; that the light bulb is controlled by simple rocking movements of the head carrying the reflector, which is returned to its non-lighted or "off" position automatically as soon as pressure on the head is removed, and that with this construction the usual type of thumb or finger switch is eliminated.

Having thus set forth the nature of my invention, I claim:

1. In a flashlight of the character described, an outer casing open at one end adapted to hold a battery having a central contact and a metal outer shell, a closure cap for the casing, a lamp socket in the cap including a circular contact element extending laterally therefrom within the casing, a head member including a reflector surrounding the socket, said head and socket mounted in the cap for lateral rocking movements and with the central contact of a light bulb in the socket normally engaging the central contact of a battery in the casing, said circular contact element normally spaced from circuit closing position with the battery shell through the light bulb and movable by said rocking movement to circuit closing position engaging the battery shell, and resilient means to return the head and circular contact element to the normal non-circuit-closing position.

2. In a flashlight of the character described, an outer casing open at one end adapted to hold a battery having a central contact and a metal outer shell, a closure cap for the casing, a lamp socket mounted in the cap adapted to hold a light bulb with its central contact normally in engagement with that of the battery and including a circular contact element extending laterally from the socket within the casing, a head member including a reflector surrounding the socket, said head and socket being mounted for lateral rocking movements in the cap with the circular contact element normally spaced from circuit closing means from the battery through the light bulb and movable by said rocking movements to engage said means to close the circuit, and resilient means to return the head and circular contact element to the normal position with said element spaced from the circuit closing means.

3. In a flashlight of the character described, an outer

casing open at one end adapted to hold a battery having a central contact and a metal outer shell, a closure cap for the casing, a lamp socket mounted in the cap adapted to receive a lamp bulb having a central contact and an outer shell contact seated in the socket, a head member including a recessed reflector embracing the socket and an outer skirt extending backwardly from the outer rim of the reflector over the end of the casing and spaced therefrom, said socket and head member mounted for lateral rocking movement in the cap, means operable by said lateral movements to close a circuit from the battery through a lamp bulb in the socket, and resilient means holding the socket and head member in the untilted open circuit position.

4. In a flashlight of the character described, an outer casing open at one end adapted to hold a battery having a central contact and a metal outer shell, a closure cap for the casing, a lamp socket mounted in the cap adapted to receive a lamp bulb having a central contact and an outer shell contact seated in the socket, a head member having a reflector embracing the socket, said socket and head member mounted for lateral rocking movement in the cap with the central contact of the bulb normally in electrical connection with the central contact of the battery, said socket including a circular extension normally spaced from the battery shell adapted to engage the outer shell contact of the battery by said rocking movements, and resilient means holding the socket and head member in the untilted position with said circular extension spaced from the battery contact to open the circuit.

5. In a flashlight of the character described, an outer casing open at one end adapted to hold a battery having a central contact and a metal outer shell, a closure cap for the casing, a lamp socket mounted in the cap and insulated therefrom adapted to receive a lamp bulb having a central contact and an outer shell contact seated in the socket, a head member having a reflector embracing the socket, said socket and head member mounted for lateral rocking movements in the cap with the central contact of a bulb in the socket normally in electrical connection with the central contact of a battery in the casing, means electrically connecting the cap with the metal shell contact of the battery, said socket including a circular extension normally spaced from the cap adapted to engage the cap by said rocking movements to close the circuit from the battery through the lamp bulb, and resilient means holding the socket and head member in the untilted open circuit position.

6. In a flashlight of the character described, an outer casing of a plastic material open at one end adapted to hold a battery having a central contact and a metal outer shell, a detachable closure cap for the open end of the casing, a lamp socket mounted in the cap adapted to receive a lamp bulb having a central contact and an outer shell contact seated in the socket, a head member of a plastic material including a recessed reflector surrounding the socket and an outer skirt extending backward from the outer rim of the reflector over the end of the casing and spaced therefrom, said lamp socket and head mounted for lateral rocking movements in the cap with the central contact of a bulb in the socket in electrical connection with the central contact of a battery in the casing, said lamp socket including a circular contact element extending laterally therefrom and adapted by said rocking movements of the lamp socket and head to effect closing of the circuit from the battery shell through the lamp bulb, and a coil spring between the head and cap holding the head and socket in the untilted open circuit position.

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