July 12, 1932. F. RAUCH 1,866,600

POCKET FLASH LIGHT

Filed Feb. 19, 1931

Fig. 1.

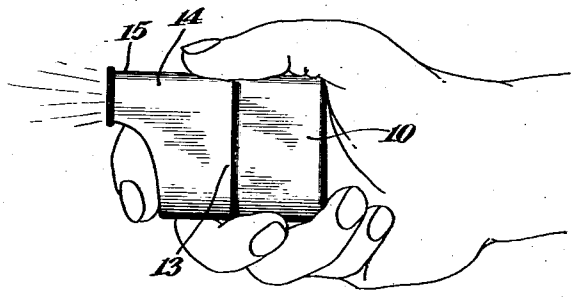


Fig. 6.

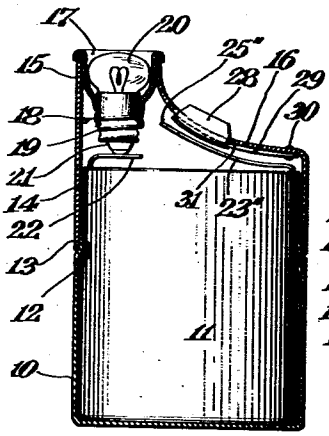


Fig. 4.

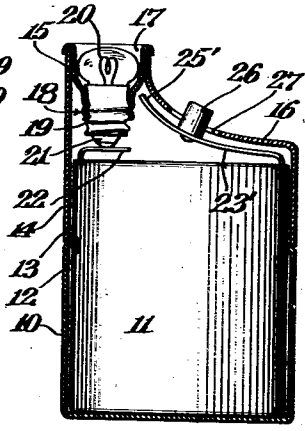


Fig. 2.

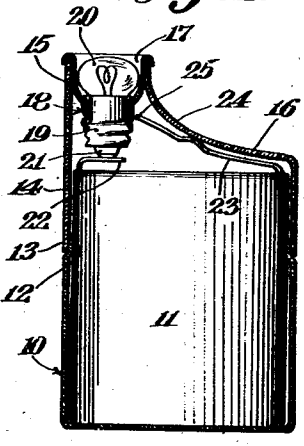


Fig. 7.

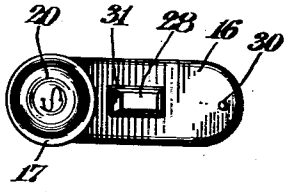


Fig. 5.

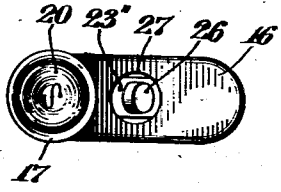
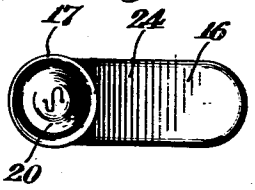


Fig. 3.



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UNITED STATES PATENT OFFICE

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POCKET FLASH LIGHT

Application filed February 19, 1931. Serial No. 516,914.

This invention relates to improvements in electric lamps and more particularly to portable types using primary batteries to produce a lighting current.

Such lamps have a wide field of usefulness, particularly in cases where the light is required only at intervals, briefly flashed and under ready control.

The majority of lamps of this class present certain objectionable features, such for instance as their generally cylindrical shape—with or without a bulbous head—rendering them inconvenient to be carried in the pocket.

The usual type of slidable switch control for the light is often undesirable, being prone to inadvertent movement in handling and therefore wasteful of energy.

Having these matters in mind it is an object of the present invention to provide a lamp of the flash light type of such thin flat shape as to be conveniently carried in a pocket without causing an objectional bulging appearance.

A further feature is in the provision of a simple, direct finger pressed contact switch to control the lamp circuit by a moderate pressure and which upon cessation of pressure breaks the circuit.

Another purpose is to produce a flash light of unusual simplicity and paucity of parts, pleasing appearance, and capable of being manufactured at a minimum of cost.

These advantageous objects are attained by the novel design, construction and arrangement of parts hereinafter described and shown in the annexed drawing, constituting an important portion of this disclosure, and in which:—

Figure 1 is a side elevational view of an embodiment of the invention illustrating the manner in which it is used.

Figure 2 is a longitudinal sectional view of the preferred type of lamp switch.

Figure 3 is a top plan view of the same.

Figure 4 is another longitudinal sectional view showing a modified form of switch.

Figure 5 is a plan view of the same.

Figure 6 is a similar sectional view showing a different form of lamp switch.

Figure 7 is a plan view thereof.

Stated in general terms the device consists of a thin flat casing shaped to be comfortably held in the hand or disposed in even a small pocket, the casing being of metal or non-metallic material, as celluloid or any of the phenolic condensate products, either molded or die formed to present two interengaging portions.

One of these portions is adapted to receive a unit composed of one or more battery cells and the other to engage a socket carrying a small conventional incandescent light bulb, one of its terminals being disposed in direct contact with one of the poles of the battery, the other terminal being bare and exposed to contact by a depressible switch normally held in an inoperative position, invisible from the exterior of the casing.

Referring in greater detail to the drawing, a die formed or molded hollow body, generally designated by the numeral 10, is shaped to receive a unit 11 composed of one, two, three or more batteries arranged in series, the same resting against the integral bottom of the body, their upper portion reaching outwardly beyond the edge of the body element, this edge being inset circumjacently, as at 12, to receive the close-fitting edge 13 of the upper or cover element 14.

This cover 14 is formed to present a raised circular mouth 15 and a convexly curved outer surface 16 which blends into the side walls gracefully.

Set rigidly into the open end of the mouth 15 is a conducting sleeve 17 contracted to constitute a socket 18 at its inner portion, the socket being screw threaded to engage the correspondingly threaded plug 19 of an incandescent lamp bulb 20 which extends into the sleeve to be efficiently guarded by it.

At the tip of the plug 19 is one of the lamp terminals 21, while the plug body is grounded in the socket 18, acting as the other terminal.

A spring contact 22 fixed on the battery unit, serves to retain the batteries firmly in the casing and also to conduct current to the lamp.

The other pole of the batteries is engaged

by a spring arm 23, see Figure 2, disposed closely adjacent the inner surface of the flexible element 16 so that upon applying pressure at approximately the point 24, the inner, free end 25 of the arm 23 will make contact with the socket 18, thereby causing a circuit from the batteries through the lamp, the circuit becoming broken upon releasing the pressure, as by removing the finger from the position seen in Figure 1.

In this type of lamp it will be understood that the casing cover wall is moderately resilient and yielding readily to pressure; if a less resilient casing be preferred the device shown in Figures 4 and 5 may be used, the same consisting of a spring arm 23′ in which is set a button 26 extending outwardly through an opening 27 in the element 16 conveniently of access, the action of the contacts being the same.

In the modification shown in Figures 6 and 7, a spring arm 23″ may be depressed by a button 28 carried by a separate flat spring 29 held by a rivet 30 to the under side of the cover element 16, the button extending outwardly through an opening 31 therein.

From the foregoing it will be seen that a thin flat lamp has been disclosed, easily operated by one of the fingers of the hand holding the casing, that the non-metallic casing is essentially waterproof and that the bulb is protected from accidental injury effectively.

While certain preferred embodiments of this device have been shown and described, it will be understood that changes in the form, arrangements, proportions, sizes and details thereof may be made without departing from the scope of the invention as defined in the appended claims.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent, is:—

1. A pocket electric lamp comprising a thin flat dielectric casing having parallel side walls and rounded side edges and composed of two sections, respectively upper and lower connected midway the length of the casing, said upper section presenting a raised circular neck blending into one of the rounded side edge walls, the remaining portion of the upper wall of said section being reduced in height to present a finger receiving surface below the plane of the top of said neck, a lamp bulb in said upper section projecting into said neck, said bulb having a conducting base and a terminal insulated therefrom, a battery in the lower section, an electrical connection between said terminal and one of the poles of said battery, a conductor from the other pole of the battery its end extending normally adjacent said base, a spring fixed in the upper section of said casing to extend over said conductor, and means movable through the wall of the reduced portion of the upper section of said casing to deflect said spring and cause contact of said conductor with the base of said lamp.

2. A pocket electric lamp comprising a thin flat dielectric casing having parallel side walls and rounded side edges and composed of two sections, respectively upper and lower connected midway the length of the casing, said upper section presenting a raised circular neck blending into one of the rounded side edge walls, the remaining portion of the upper wall of said section being reduced in height to present a finger receiving surface below the plane of the top of said neck, a lamp bulb in said upper section projecting into said neck, said bulb having a conducting base and a terminal insulated therefrom, a battery in the lower section, an electrical connection between said terminal and one of the poles of said battery, a conductor from the other pole of the battery its end extending normally adjacent said base, said conductor being resilient, and a push button movable through the top wall of the upper section operative to cause contact of said conductor with the base terminal of said lamp.

In testimony whereof I affix my signature.

FRANK RAUCH.