O. HOFFMANN.

ELECTRIC POCKET LAMP.

APPLICATION FILED JAN. 11, 1921.

1,392,163. Patented Sept. 27, 1921.

Fig. 1.

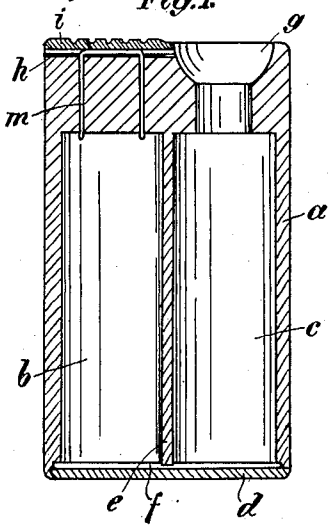


Fig. 2.

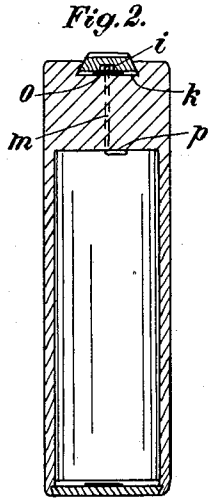


Fig. 3.

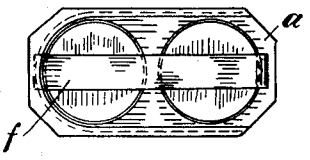


Fig. 4.

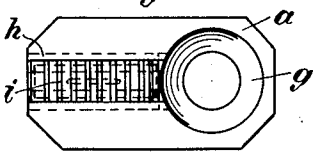


Fig. 5.

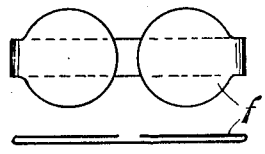


Fig. 6.

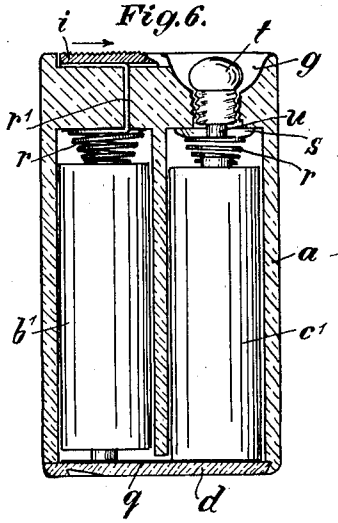


Fig. 7.

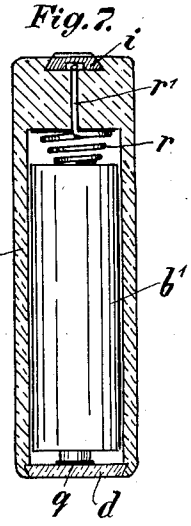


Fig. 8.

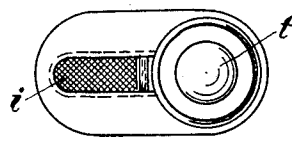


Fig. 9.

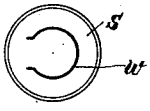
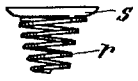


Fig. 10.



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UNITED STATES PATENT OFFICE.

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ELECTRIC POCKET-LAMP.

1,392,163. Specification of Letters Patent. Patented Sept. 27, 1921.

Application filed January 11, 1921. Serial No. 436,629.

To all whom it may concern:

Be it known that OSCAR HOFFMANN, a citizen of the German Republic, residing at Stuttgart, Germany, has invented certain new and useful Improvements in Electric Pocket-Lamps, for which I have filed application in Germany, Nov. 4, 1919, of which the following is a specification.

This invention relates to electric pocket lamps. The object of the invention is to produce an arrangement for such lamps which enables the battery to be replaced in the easiest possible manner and at the smallest possible expense while insuring reliable connections between the cells and the conducting parts through short and direct conductors, obviating faults in the lamp circuit, and effectually preventing undesired closures of the said circuit through unintentional operations of its switch.

To accomplish this object the battery is made up of cells that can be removed and replaced individually. The casing of the pocket lamp, which may be made of wood or any other suitable material, is provided with a sliding cover held in position by spring pressure, this pressure being also utilized for the purpose of pressing the individual cells placed in bore-holes in the casing against the conducting parts arranged in the casing. The springs that produce the said pressure may be such as are not permanently fixed and can be quickly inserted and replaced, or they may be permanently fixed in the said bore-holes.

Another feature of the invention consists in a dovetailed slot at the end of the casing opposite to that in which the sliding cover is arranged, this slot being located at one side of a cavity adapted to receive the glow-lamp and having a sliding contact member with dovetailed edges fitted into it. A narrow channel is cut into the bottom surface of the sliding member and this channel is adapted to slide over a conducting wire connected with a conducting part in the interior of the casing. If springs that are permanently fixed in the boreholes are used, the said wire may form the upper end of one of these springs and may be made to hold the spring in position. The other permanently fixed spring, which is arranged in the borehole that is in line with the lamp, may be attached to a metal disk or cup in which a suitably shaped perforation is made so as to produce a resilient surface against which the middle contact of the glowlamp is pressed when the sliding cover of the casing is closed.

The lamp circuit is closed to light the lamp by shifting the aforementioned sliding contact member and bringing it into contact with the screw socket of the glowlamp.

The novel type of sliding contact member is a feature of considerable practical importance as it obviates the likelihood of the lamp being unintentionally switched on by projecting parts of the switch such as buttons, screws, etc. being caught in the apparel of the user of the lamp. Hence the new design insures a good and uniform operation of the lamp.

Some constructional forms of the invention are shown in the drawing in which—

Figure 1 is a vertical longitudinal section of an electric pocket lamp with a battery composed of cells that can be removed individually,

Fig. 2 is a longitudinal section at right angles to Fig. 1,

Fig. 3 a bottom view, and

Fig. 4 a top view of the same.

Fig. 5 is a top and side view of a spring employed in the pocket lamp.

Fig. 6 is a vertical longitudinal section of a modified form of pocket-lamp according to the invention,

Fig. 7 a longitudinal section at right angles to Fig. 6, and

Fig. 8 a top view of the same.

Fig. 9 is a top view of a metallic disk or cup to which the springs may be attached which may be located in the boreholes of the casing, and

Fig. 10 is a sectional view of such a cup with an attached spring.

In Figs. 1–5 a casing *a* of wood or similar insulating material is shown with two boreholes *b* and *c* adapted to receive the individual cells. The casing *a* is closed at the bottom by a sliding lid *d*, also constructed of insulating material which tensions and

confines a spring *f* and thus presses the cells against their contacts. The spring *f* is formed of electrical conducting material and, being engaged with the poles of the cells, electrically connects the latter. When the spring *f* is inserted it is laid upon the middle wall *e* of the casing and on the lid being pushed home the spring holds it in position so that it cannot open of itself. In its upper part the casing *a* has a cavity *g* for the lamp and a dovetail slot *h* into which a sliding contact member *i* with a channeled top surface is fitted. The sliding contact member *i* is formed of conducting material and has a groove *k* cut into its bottom surface which glides over a conducting wire *m* which holds and interconnects a spring *o* placed beneath it and a metallic plate *p* located beneath the top wall of the casing opposite to the spring *o*. The center electrode of the cell located in the bore *c* bears against the center electrode of the lamp while the opposite electrode is electrically connected with one electrode of the other cell located in the bore *b* by the spring *f*. The opposite electrode of the last mentioned cell is electrically connected with the sliding contact member *i* by the plate *p*, wire *m* and spring *o*. When the sliding member *i* is shifted it is brought into contact with the screw socket of the glowlamp *t* (as in Fig. 6) and the lamp is thus lighted by its circuit being closed.

In the constructional form illustrated in Figs. 6–10 the spring *f* of Figs. 1–5, which is simply inserted at the bottom of the casing and not permanently fixed is substituted by springs *r* that are permanently fixed in the boreholes of the casing *a*. One of these springs *r*, as the spring in the right hand hole, may be attached to a brass cup or disk *s* which is attached to the top end of the hole. This cup has at the middle a slit *w* (Fig. 9) of such shape that a resilient contact finger is formed which is pressed down by the electrode *u* of the glowlamp *t* and thus establishes a connection with the inserted cell c^1. In the left borehole the brass cup *s* is completely omitted and a brass spring *r* is provided instead which has one end extended through the casing as at r^1 that is bent down at the top and holds a flat spring similar to *o*, Fig. 2, upon which the sliding contact member *i* glides that is fitted in the dovetail slot. In the case of the constructional form of casing and of the arrangement of springs shown in the drawing it is immaterial whether the right or left cell has its head turned upward. The connection between the two cells is established by a metal strip *q* arranged in the lid *d*.

As the novel pocket lamp has no projecting part an unintentional opening of the lid or switching on of the lamp cannot occur. Hence much current is saved and a long and uniform operation of the lamp is secured. The sliding lid *d* enables the individual cells to be quickly and properly replaced, and the sliding contact member *i* forms a reliable circuit controller.

Many changes of the various parts can be made without departing from the scope of the invention.

I claim:

1. In an electric pocket lamp, a casing, cell compartments, contacts adapted to engage with the terminals of electric cells located in said compartments, sliding lid for closing the said compartments, a spring permanently fixed at the end of each said compartment, a lamp engaging spring contact member electrically connected with one of the springs, a sliding circuit closer electrically connected with the other of the said springs, the said springs being arranged to exert pressure upon cells located in the compartments whereby the latter are actuated to hold the said lid in closed position, and an electrically connected member in the lid for interconnecting the said cells, said lid and circuit closer being arranged substantially flush with the outer surface of the casing.

2. In an electric pocket lamp, a casing, a cell compartment, a lamp circuit, including a wire anchored in said casing and adapted for electrical connection with a cell, a lamp socket, a sliding circuit closer adapted to glide upon the said wire, the circuit closer being fitted into the casing and adapted to engage the lamp socket and close the lamp circuit.

3. In an electric lamp, a casing, a cell compartment, contacts, a projectionless sliding lid for closing said compartment, one of the contacts being arranged to press against the cell terminal to maintain the lid in position, a sliding circuit closer for closing the lamp circuit, said circuit closer being arranged substantially flush with the outer surface of the casing whereby liability of accidental displacement of the circuit closer is minimized.

4. In an electric pocket lamp, a casing, a cell compartment, a plurality of contacts, a sliding lid for closing said compartment, one of said contacts being resilient and acting upon the lid to normally retain the latter in closed position and to press the cell against the other contact, and a sliding circuit closer for closing the lamp circuit, said lid and circuit closer being arranged substantially flush with the outer surface of the casing whereby accidental actuation of the circuit closer and displacement of the lid is minimized.

5. In an electric pocket lamp, a casing, cell compartments, a sliding lid for closing said compartments, a spring permanently

secured in the end of each compartment, one of the springs being provided with an extended portion, a circuit closer engaged with the extended portion of the spring and adapted to close the lamp circuit, said springs being arranged to normally retain the lid in position against accidental displacement, and an inter-connecting member on the lid for electrically connecting the cells.

In testimony whereof I affix my signature.

OSCAR HOFFMANN.

Witnesses:
FRIEDA KLAIBER,
E. SCHLEICHER.