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ELECTRIC POCKET LAMP.

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To all whom it may concern:

Be it known that I, HEINRICH STUDER, a Swiss citizen, residing at Zurich, Switzerland, have invented certain Improvements in Electric Pocket Lamps, of which the following is a specification.

The present invention relates to an electric pocket lamp of the kind having a battery casing composed of two shells which are fitted telescopically together so as to form a closed structure within which the battery and the switch elements are enclosed.

The invention comprises various features in connection with the construction and the arrangement of the lamp and of the switch elements.

In the accompanying drawings the invention is illustrated by way of example,

Fig. 1 representing a front view of the lamp according to one construction,

Fig. 2, a side view of the same, partly in section, and

Fig. 3, a plan.

Fig. 4 is a side view on an enlarged scale of the front part of the lamp,

Fig. 5, a section on the line A—A of Fig. 4, and

Fig. 6, a front view of the lamp holder and the switch mechanism.

Fig. 7 is a side view of a lamp of a modified construction, and

Fig. 8, a vertical section of the same on the line B—B of Fig. 7.

In the construction according to Figs. 1 to 6, a lamp casing is formed out of two shells 1 and 2 which are fitted telescopically together so as to produce a housing for an electric battery 3. Connected to the rear wall of the casing is a spring 7 which bears against the negative terminal plate 8 of the battery and which forces the latter against the front wall 4. A sheet 5 of insulating material protects the positive terminal plate 15 of the battery from contact with the casing.

The wall 4 of the casing carries a projecting lens mount 9 within which the electric bulb 12 is arranged between the lens 11 and the battery 3. Adjoining the lens mount is a wedge-shaped casing enlargement 10 within which the switch mechanism is accommodated. The bulb socket 13 is arranged at right angles to the axis of the lens mount and is held in a clip 14 the ends of which are bent over against the insulating sheet 8 so as to form a bearing surface for the terminal plate 15, the spring 7 ensuring a reliable contact. The clip is held by the sheet 5 and is protected by an insulation 16 from contact with the casing wall 10. In the inclined wall 17 of the casing enlargement, a longitudinal slot 18 is made in which the stem 19 of a switch button 20 is guided. Inside the casing the stem carries a blade spring 21 the curved free end 24 of which is adapted, in one position of the button 20, to contact with the end terminal of the bulb socket 13. Between the spring 21 and the wall 17, a wire clip 23 is arranged which cooperates with a disc or roller 22, mounted on the stem 19, for maintaining the spring 21 either in or out of contact with the bulb terminal. For this purpose the spring is bent so as to form a narrow guideway through which the roller 22 must be forced from one position to the other. When there is contact between the spring 21 and the bulb terminal, as shown in Fig. 4, the circuit is closed, and the current passes from the plate 15 to the bulb and thence through the spring 21, through the casing, and through the spring 7 to the plate 8. The circuit is broken when the button 20 is slid to the bottom of the slot 18.

In the construction according to Figs. 7 and 8, the wedge-shaped casing enlargement 26 and the lens mount 25 are arranged at one of the ends of the battery casing. One of the limbs of the clip 27 for the bulb socket has a prolongation 28 which is carried down along one side 30 of the casing, an insulating sheet 29 being arranged between it and the casing wall. The prolongation forms contact with one terminal plate 31 of the battery 32. The second terminal plate 34 of the battery contacts direct with the wall 33 of the casing. The switch mechanism is the same as previously described.

The arrangement has in both cases the advantage that, apart from the lens mount and the adjoining wedge-shaped enlargement 10, the casing need not be larger than just enough to contain the battery.

In order to allow the lens mount to be made as small as possible, the bulb 12 is preferably made round and flattened sideways, one of the flat sides being presented to the lens, as shown in Fig. 4. The socket 13 is formed with a neck 35 adapted to determine the position of the socket in the holder.

Thus the usual screw connection is avoided.
The rear side of the bulb may be opaque or frosted, and the side which faces the lens may either be plain, frosted or colored. As either side of the bulb can be turned towards the lens, the same bulb can be used for obtaining either bright or dimmed light, or white or colored light, for instance for photographic or signalling purposes.

I claim:

1. An electric pocket lamp, comprising a battery casing formed of two shells fitted telescopically together, a lens mount projecting from said casing, a wedge-shaped casing enlargement adjoining said lens mount, means in said casing enlargement for holding a bulb at right angles to the axis of the lens mount, a button guided with its stem in a slot in said casing enlargement, a contact spring held by said stem inside the casing enlargement so that it can be slid into contact with the end terminal of the bulb, a roller on said stem, and a wire clip arranged so as to engage said roller for holding the contact spring either in or out of contact with the bulb terminal.

2. An electric pocket lamp comprising a battery casing formed of two shells fitted telescopically together, a lens mount projecting from said casing, a wedge-shaped casing enlargement adjoining said lens mount, a latterly flattened electric bulb, a clip arranged in said casing enlargement for holding the bulb with its flat sides perpendicular to the axis of the lens mount, and a switch mechanism arranged in said casing enlargement.

3. An electric pocket lamp comprising a battery casing formed of two shells fitted telescopically together, a lens mount projecting from said casing, a wedge-shaped casing enlargement adjoining said lens mount, a latterly flattened electric bulb having a ribbed socket, a lamp holder in said casing enlargement adapted to grip said socket and to hold the bulb with its flat sides perpendicular to the axis of the lens mount, and a switch mechanism arranged in said casing enlargement.

4. An electric pocket lamp, comprising a battery casing formed of two shells fitted telescopically together, a lens mount projecting from said casing, a wedge-shaped casing enlargement adjoining said lens mount, a latterly flattened electric bulb having one plain and one frosted side, means arranged in said casing enlargement for holding said bulb reversibly with the flat sides perpendicular to the axis of the lens mount, and a switch mechanism arranged in said casing enlargement.

5. An electric pocket lamp, comprising a battery casing formed of two shells fitted telescopically together, a lens mount projecting from said casing, a wedge-shaped casing enlargement adjoining said lens mount, a latterly flattened electric bulb having one plain colored and one frosted side, means arranged in said casing enlargement for holding said bulb reversibly with the flat sides perpendicular to the axis of the lens mount, and a switch mechanism arranged in said casing enlargement.

HEINR. STUDER.