# United States Patent

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[54] **ELECTRIC HAND LAMP**
**3 Claims, 3 Drawing Figs.**


[52] **U.S. Cl.** ..... **240/10.63,** 240/10.65, 240/10.66
[51] **Int. Cl.** ..... **F21l 9/00**
[50] **Field of Search** ..... 240/10.6, 10.63, 10.65, 10.66



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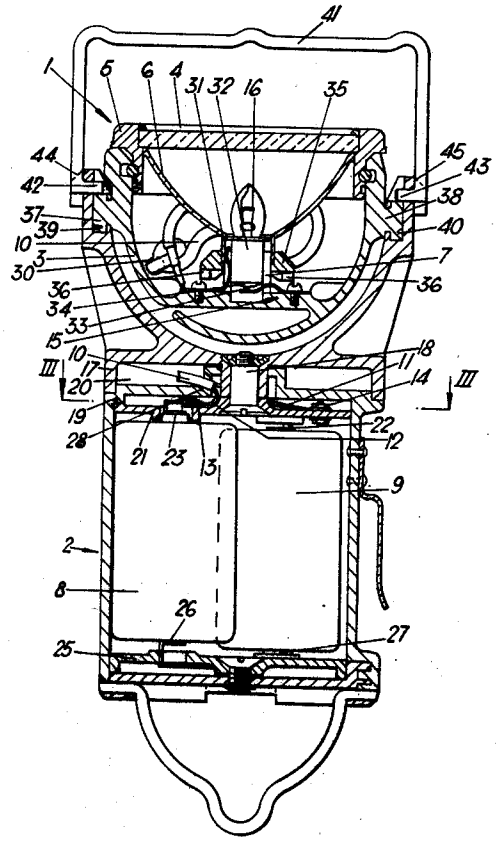
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**ABSTRACT:** An electric handlamp comprises a headpiece which includes a shell housing a bulb holder and which is detachable from a battery housing to permit the headpiece to be used at a position remote from the battery housing. To this end the bulb holder is connected with battery connections by a cable which is contained in the battery housing in a manner such that it can be withdrawn from and drawn into the housing.

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SHEET 1 OF 2

Fig.1.

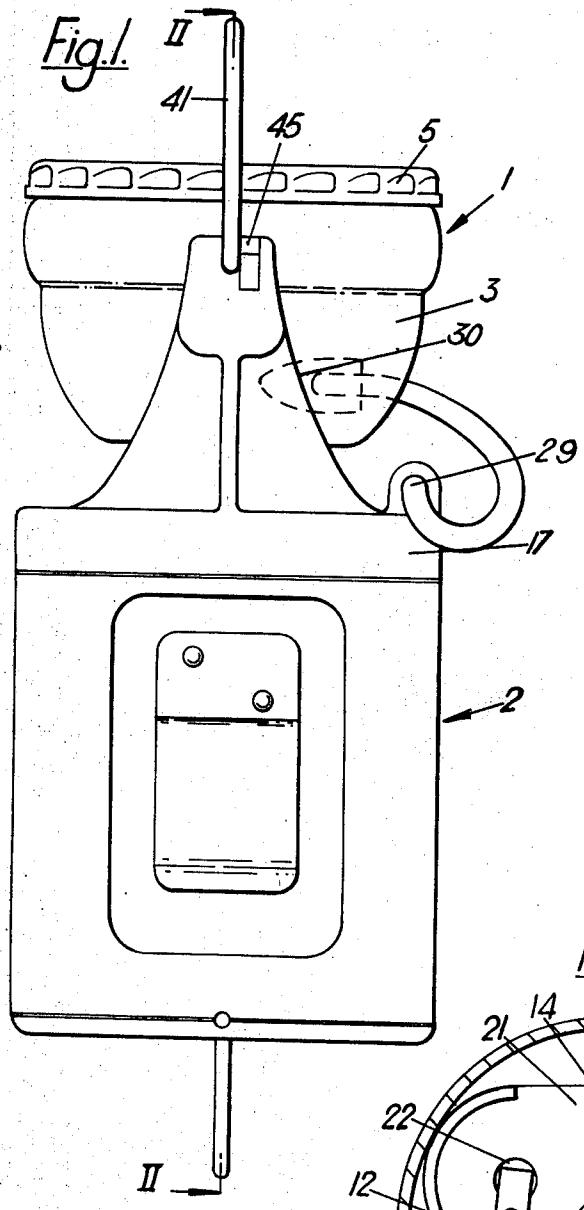
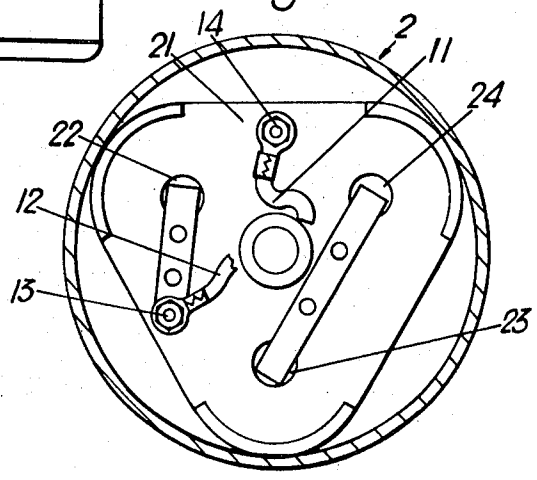



Fig.3.



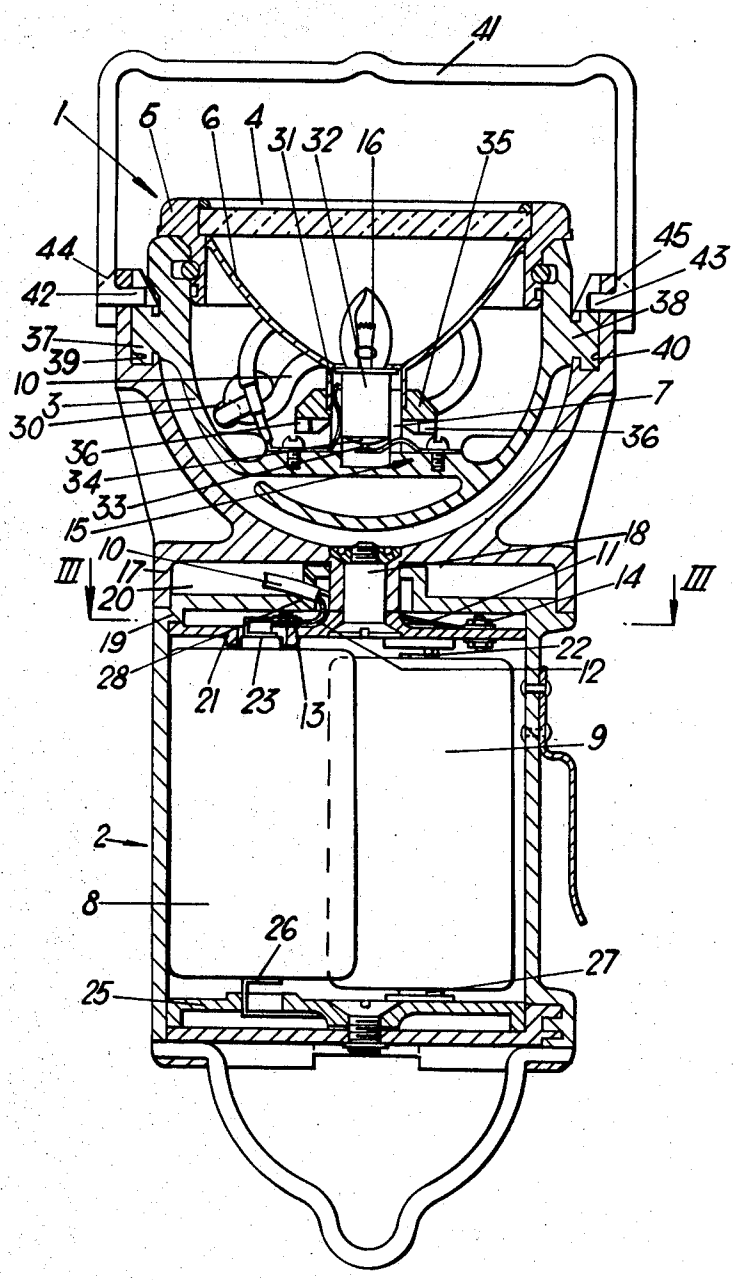

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Fig. 2.




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# ELECTRIC HAND LAMP

## BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to an electric handlamp.

2. Description of the Prior Art

Electric handlamps fitted with cells to provide the electrical energy usually have the lamp unit integral therewith so that the handlamp often cannot be used to provide adequate light in inaccessible positions.

It is a main object of the invention to provide a handlamp which permits a lamp unit to be used in situ with a battery housing for cells arranged to provide electrical energy for the lamp unit or which can, at will, be separated from the battery housing for use at a position remote from the battery housing, and which when the lamp unit is fitted to the battery housing does not have a long length of exposed connecting which might be a hindrance during transport of the handlamp or during use thereof when the lamp unit is fitted to the battery housing.

## SUMMARY

According to the invention there is provided a handlamp comprising an electric battery housing; a headpiece detachable from the battery housing and including a shell housing a lens ring, a reflector, and a bulb holder; a sheathed cable electrically connecting the bulb holder with battery connections in the battery housing and contained in the battery housing in a manner permitting withdrawal therefrom on detachment of the headpiece and restoring thereof into the battery housing preparatory to reattachment of the headpiece to the battery housing; and a switch operable to make or break contact between said battery connections and a bulb held in the holder.

In a preferred embodiment of the invention the headpiece is detachably connectable with a mounting rotatable about a spindle located in an end wall of the housing, the mounting forming with said end wall a chamber in which the cable can be coiled about the axis of the spindle or from which it can be withdrawn by rotation of the mounting relative to the battery housing. Diametrically opposed lugs may extend laterally from the headpiece shell and be locatable in grooves formed in said mounting, and the lugs may be retained in said grooves by a handle having inturned ends which extend through the mounting to cooperate with the grooves to retain the lugs in the grooves and which are withdrawable axially to release the lugs to permit removal thereof from the grooves.

The mounting may be provided with cam elements arranged to cooperate with said handle in a manner such that rotation of the handle about the axes of the inturned ends effects said axial withdrawal of the inturned ends.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of a handlamp according to the invention.

FIG. 2 is a cross section taken along the line II–II of FIG. 1.

FIG. 3 is a cross section taken along the line III–III of FIG. 2.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, the handlamp comprises a headpiece 1 which is detachable from an electric battery housing 2 and which includes a shell 3 housing a lens 4 in a lens ring 5, a reflector 6 and a bulb holder 7.

The battery housing 2 is arranged to accommodate three electric cells, only two of which, 8 and 9 respectively, are shown in the drawings (see FIG. 2). A sheathed cable 10, FIG. 2, having two insulated wires 11, 12 electrically connects the bulb holder 7 with battery connections, constituted by terminals 13 and 14 respectively, in housing 2. As will be described hereafter, the sheathed cable 10 is contained in the housing 2 in a manner permitting withdrawal therefrom on



detachment of the headpiece 1 and restoring thereof into the housing 2 preparatory to reattachment of the headpiece 1 to the housing 2. A switch 15 is operable to make or break contact between the battery connections 13, 14 and a bulb 16 held in the holder 7.

The headpiece 1 is detachable connectable with a mounting 17 rotatable about a spindle 18 located in an end wall 19 of the housing The mounting 17 forms with the end wall 19 a chamber 20 in which the cable 10 can be coiled about the axis of the spindle 18 or from which it can be withdrawn by rotation of the mounting 17 relative to the battery housing 2.

Adjacent the end wall 19 of the housing 2 is an upper contact plate 21 (see FIG. 3) having three contact members 22, 23, 34. A lower contact plate 25, FIG. 2, is located at the other end of the housing 2 and also has three contact members of which only two, 26 and 27 respectively, are shown in the drawings (see FIG. 2). Each of said contact members on the upper and lower contact plates, 21 and 25 respectively, makes electrical contact with one pole of one of the said three electric cells and the contact members on each of said contact plates 21, 25 are interconnected in such a way that said three electric cells are connected in series. The upper contact plate 21 also supports the two battery connection terminals 13 and 14, terminal 13 being connected to contact member 22 on the upper contact plate 21 and terminal 14 being connected to the said third contact member (not shown) of the lower contact plate 25.

The sheathed cable 10, connected at one end to the terminals 13, 14 passes from the region of the upper contact plate 21 through an aperture 28 in the end wall 19 and into the chamber 20 where it can be coiled about the axis of the spindle 18. The other end of cable 10, connected to the bulb holder 7, extends from chamber 20 through a guiding aperture 29, FIG. 1, and enters the headpiece housing 1 through an aperture 30 in the shell 3. Inside the housing 1, the insulated wires 11, 12 of the cable 10 are connected respectively to a spring contact member 31, FIG. 2, connecting to a side contact 32 on the bulb 16 and a spring contact member 33 connectable to a base contact 34 on the bulb 16 and constituting part of the switch 15.

The switch 15 is operated by rotation of the lens ring 5 with respect to the headpiece shell 3. For this purpose the lens ring 5 is rotatably mounted in the headpiece shell 3 and is attached to the reflector 6 which carries an annular member 35 having cams 36. Rotation of the lens ring 5 and hence of the annular member 35 causes the cams 36 to bear successively on the spring contact member 33 thus breaking the connection between said contact 33 and the base contact 34 on the bulb 16. Diametrically opposed lugs 37, 38 extend laterally from the headpiece shell 3 and are locatable in grooves, 39 and 40 respectively, formed in the mounting 17. The lugs 37, 38 are retained in said grooves 39, 40 by a handle 41 having inturned ends 42, 43 which extend through the mounting 17 to cooperate with the grooves 39, 40 to retain the lugs 37, 38 in said grooves and which are withdrawable axially to release the lugs 37, 38 to permit removal thereof from said grooves.

In the embodiment shown in the drawings, the parts of the mounting 17 adjacent to each of the lugs 37, 38 are provided with cam members, 44 and 45 respectively, arranged to cooperate with the handle 41 in a manner such that rotation of the handle 41 about the axes of the inturned ends 42, 43 effects said axial withdrawal of said internal ends 42, 43.

When the headpiece 1 is removed from the mounting 17 the cable 10 can be pulled through the hole 29 thus causing the housing 2 to rotate relative to the mounting 17 until sufficient cable has been withdrawn or until the cable is fully extended to permit the headpiece to be used at a distance from the battery housing. After such use the headpiece is refitted to the mounting and the cable is rewound into chamber 20 by rotating the housing 2 relative to mounting 17 until the slack cable has been wound into the chamber 20.

I claim:

1. A handlamp comprising an electric battery housing; a headpiece mounting forming a chamber with an end wall of the housing, a spindle secured to said end wall and connecting the headpiece mounting to the end wall for rotation about the spindle; a headpiece detachably connected to the headpiece mounting and including a shell housing a lens ring, a reflector, and a bulb holder; a sheathed cable electrically connecting the bulb holder with battery connections in the battery housing and extending through said headpiece mounting in a manner such that rotation of the headpiece mounting in one direction about the spindle unwinds the cable from around the spindle to permit withdrawal of the cable from said chamber on detachment of the headpiece from the headpiece mounting and rotation in the opposite direction rewinds the cable into said chamber around the spindle preparatory to reattachment of the headpiece to the headpiece mounting; and a switch



operable to make or break contact between said battery connections and a bulb held in the holder.

2. A handlamp according to claim 1, wherein diametrically opposed lugs extend laterally from the headpiece shell and are locatable in grooves formed in said headpiece mounting, and wherein the lugs are retained in said grooves by a handle having inturned ends which extend through the headpiece mounting to cooperate with the grooves to retain the lugs in the grooves and which are withdrawable axially to release the lugs to permit removal thereof from the grooves.

3. A handlamp according to claim 2, wherein the headpiece mounting is provided with cam members arranged to cooperate with said handle in a manner such that rotation of the handle about the axes of the inturned ends effects said axial withdrawal of the inturned ends.