Sept. 15, 1931. P. RATHMANN 1,823,762

ELECTRIC REFLECTOR LAMP

Filed May 31, 1930

Fig. 1.

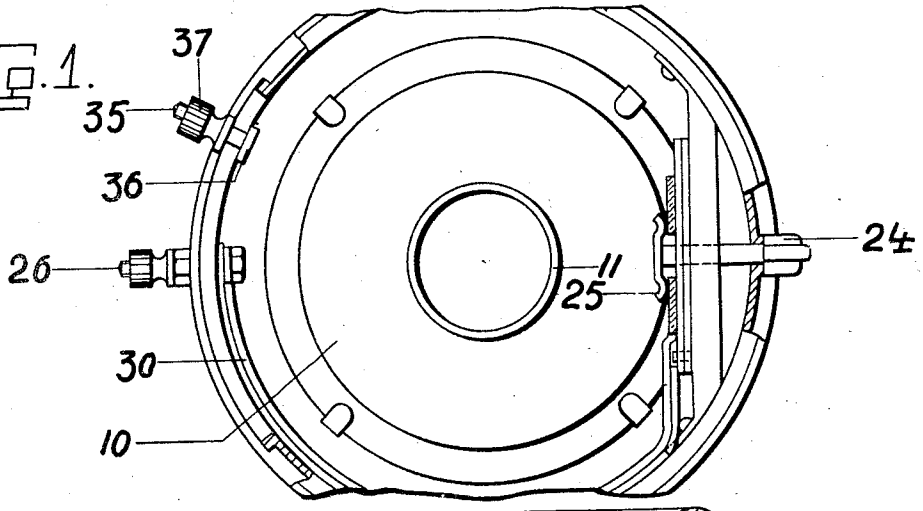


Fig. 2.

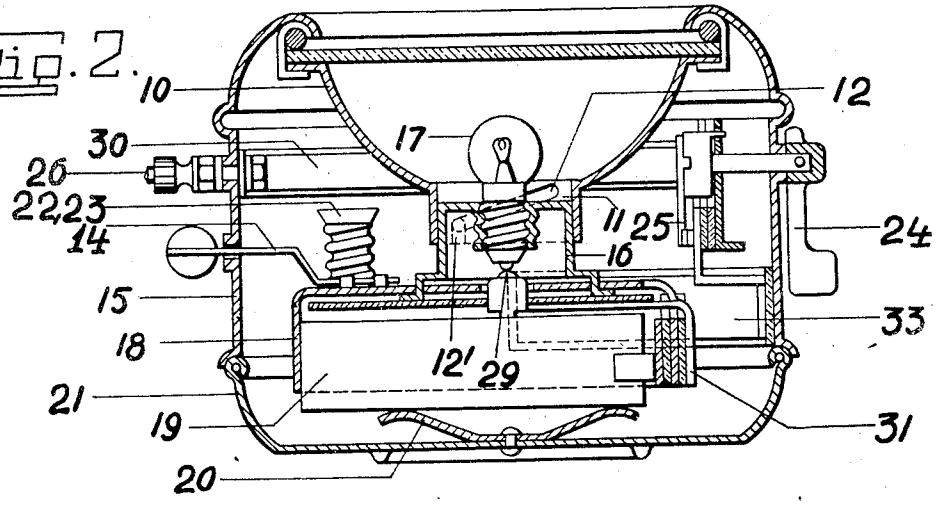
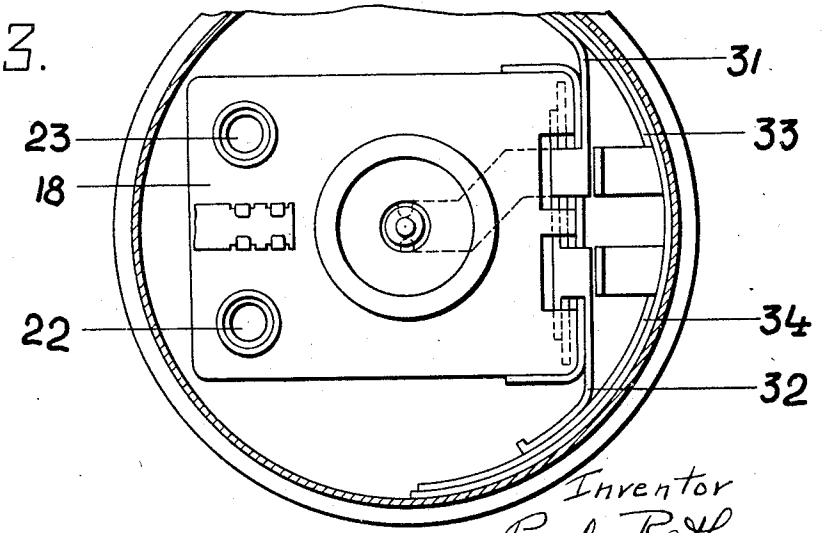


Fig. 3.



Inventor
Paul Rathmann
By Langner, Parry, Card & Langner
Attys

Patented Sept. 15, 1931 1,823,762

UNITED STATES PATENT OFFICE

PAUL RATHMANN, OF BODENBACH, CZECHOSLOVAKIA, ASSIGNOR TO FIRM ELEKTROTECHNISCHE FABRIK SCHMIDT & CO., GESELLSCHAFT M. B. H., OF BODENBACH, CZECHOSLOVAKIA

ELECTRIC REFLECTOR LAMP

Application filed May 31, 1930, Serial No. 458,613, and in Czechoslovakia November 27, 1929.

The present invention relates to electric incandescent lamps fitted with reflectors in which the lamp bulb is adjustable along the axis of the reflector, and its object is to facilitate adjustment of the lamp bulb without lateral displacement relatively to the reflector, and also to facilitate exchange of the lamp bulb and examination of the lamp contacts.

These objects are attained by mounting the lamp socket to slide in the reflector sleeve, and making a known pin and inclined slot connection between the reflector sleeve and the lamp socket, so that by turning a hand lever attached to the socket, the latter is moved axially in relation to the reflector.

To secure a constant and reliable electrical contact with the battery holder two contact springs are provided which extend to both a battery pole and the centre pole of the lamp. On moving the battery holder the said contact springs slide upon two contact strips which are fixed to the inner surface of the casing and are connected to the switch device. The battery holder which is preferably of box form and is guided in the casing, provides a convenient place for sockets for spare lamps.

The accompanying drawings show a construction according to the invention, where

Fig. 1 is a view of the interior of a lamp casing with the battery holder removed and its guide omitted,

Fig. 2 is an axial section of a lamp,

Fig. 3 is a view of its battery holder seen from that side where the incandescent lamp and the spare lamps are arranged.

With reference to the drawings the reflector 10 has a sleeve 11 as usual, in which is an inclined slot 12. In the reflector sleeve fits the socket body 16 which is attached to the box form battery holder 18. Mounted on the socket 16 is a pin (not shown) engaging in the guide slot 12 in the reflector sleeve 11. The battery holder 18 has an arm 14 secured to it projecting laterally out of the lamp casing 15. The lamp 17 is screwed into the socket body 16 in the usual manner. The box form battery holder 18 is open on the side remote from the lamp 17, so that the battery 19 may be put from this side therein.

The slot 12 passes on its one end into an axial groove 12′ through which a pin on the lamp socket 16 may be introduced.

A spring 20 secured to the lid 21 of the casing tends to move the battery 19 and box 18 and the socket body 16 towards the reflector.

Mounted on the battery box 18 are two sockets 22, 23 for spare lamps.

The spindle of the switch lever 24 carries a switch contact spring 25 by which the lamp may be connected as desired either to battery contacts or to an external supply from a dynamo connected with the terminal 26.

Secured to the outer surface of the box-form battery holder 18 are two contact springs 31, 32 which always bear against two contact strips 33, 34 insulated from each other, and fixed to the inner surface of the casing. The contact strips 33, 34 are rigidly connected with the switch device, while the contact spring 31 extends to the lamp contact 29, and contact spring 32 is connected to a battery terminal.

The electrical connection between both the terminal 26 and the conductor leading from the dynamo and the incandescent lamp is effected partly by the lamp casing to which a lamp pole is electrically connected through the intermediary of the battery box, and partly by a contact spring 30, which is insulated from the casing and extends to the switch.

After opening the lid 21 a battery 19 may be put into the battery box with its short terminal strip either to left or right as desired, and the lamp is then ready. The lamp may be focussed by turning the arm 14 the outer end of which is made of insulated material or insulated from the casing and so moving and also turning the battery holder 18 and the battery in the casing 15.

In case the lamp be fed from a dynamo only, the battery holder and the battery may be dispensed with and the hand lever may be secured directly to the lamp socket 16.

Alternatively the lamp socket 16 may be rotatably connected with the battery holder 18, so that on actuating the hand lever 14, secured in this case likewise to the lamp casing, the battery holder and the battery are not turned, but only move axially, while the lamp socket is turned and simultaneously moved axially. If the box is to remain at the same time stationary, the lamp socket is made freely movable axially relatively to it, a constant electrical connection between the lamp pole 29 and the contact strip 31 being necessary to maintain.

In order that the incandescent lamp may readily be brought into or out of the focus of the reflector as desired, a bolt 35 having a head 36 and a nut 37 is movably set in the slot in the casing through which the hand lever 14 passes. On loosening the nut 37 the bolt 35 may be moved into any desired position and secured there by tightening the nut. In this way the position of the hand lever 14 which brings the filament of the lamp into exact focus of the reflector may be established once for all so that there is no need to find it by trial and error on each occasion of use.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An electric reflector lamp comprising a reflector having a sleeve, a casing for the said reflector, a slot in said casing, an incandescible lamp adjustable along the axis of the said reflector, and means for adjusting the lamp along the axis of the said reflector, the said means comprising a lamp socket slidably mounted in the said reflector sleeve, a pin and inclined slot connection between the reflector sleeve and the lamp socket, a hand lever secured to the lamp socket and adapted upon actuation to move the lamp socket axially in relation to the reflector sleeve, the said hand lever projecting exteriorly of the casing, and an adjustable abutment for the said hand lever slidably mounted in the slot in the casing through which the hand lever passes.

2. An electric reflector lamp comprising a reflector having a sleeve, a casing for the said reflector, a slot in said casing, an incandescible lamp adjustable along the axis of the reflector, and means for adjusting the lamp along the axis of the reflector, the said means comprising a lamp socket slidably mounted in the said reflector sleeve, a pin and inclined slot between the reflector sleeve and the lamp socket, a hand lever secured to the lamp socket and adapted upon actuation to move the lamp socket axially in relation to the reflector sleeve, the said lever projecting exteriorly from the casing, and an adjustable abutment for the said lever, and comprising a headed bolt and a nut slidably mounted in the slot in the casing through which the hand lever passes.

In testimony whereof I affix my signature.

PAUL RATHMANN.