

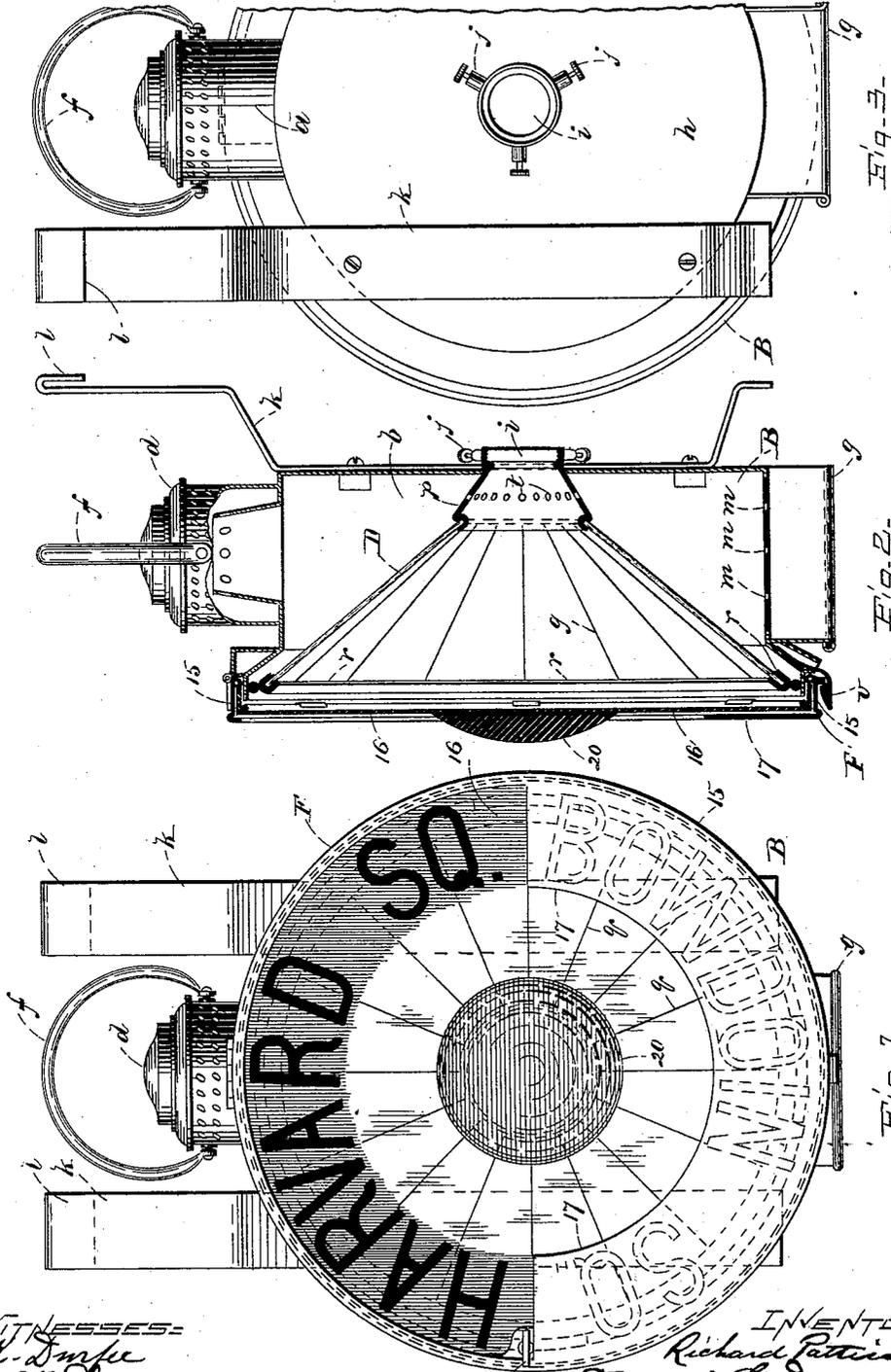
(No Model.)

2 Sheets—Sheet 1.

R. PATTISON & D. G. DESMOND.  
ELECTRIC HEAD LIGHT.

No. 454,184.

Patented June 16, 1891.



WITNESSES:  
*H. Dwyer*  
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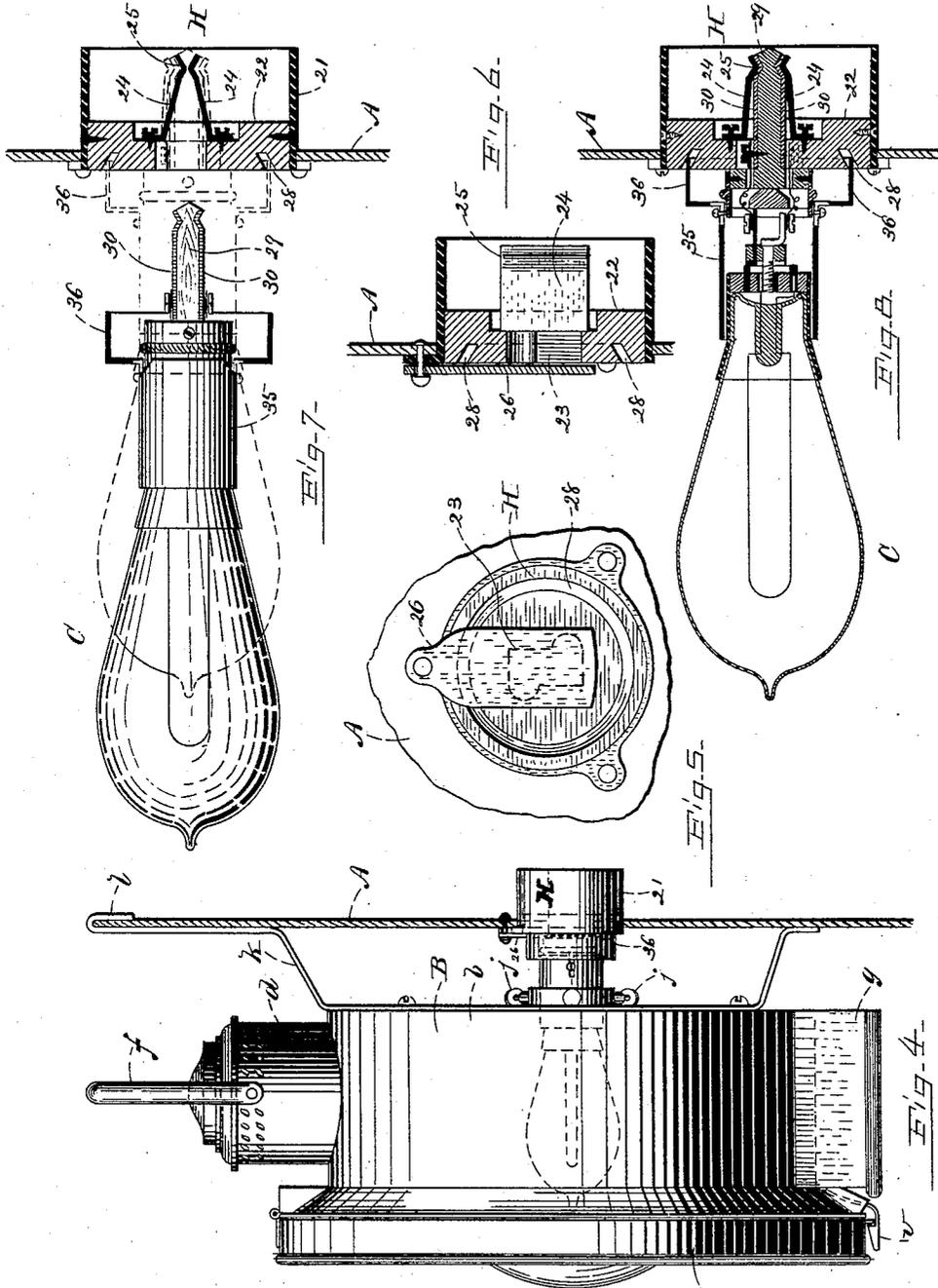
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# UNITED STATES PATENT OFFICE.

RICHARD PATTISON AND DENNIS G. DESMOND, OF BOSTON, MASSACHUSETTS.

## ELECTRIC HEAD-LIGHT.

SPECIFICATION forming part of Letters Patent No. 454,184, dated June 16, 1891.

Application filed December 9, 1890. Serial No. 374,041. (No model.)

*To all whom it may concern:*

Be it known that we, RICHARD PATTISON and DENNIS G. DESMOND, both of Boston, in the county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Head-Lights for Electrically-Propelled Vehicles, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of our improved head-light; Fig. 2, a vertical transverse section of the same; Fig. 3, a sectional rear elevation; Fig. 4, a side elevation showing the device in position on a car-dasher; Fig. 5, a front elevation of a portion of a car-dasher, showing the lamp-socket and lid; Fig. 6, a vertical transverse section of the same; Fig. 7, an elevation of the lamp and contacts, the dasher-socket being shown in horizontal section; and Fig. 8, a horizontal section of the lamp in position in the dasher-socket.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

Our invention relates to a detachable electric head-light especially adapted for use on electrically-propelled street-cars; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the car-dasher, and B the head-light lantern, considered as a whole. The lantern consists of a cylindrical metallic body *b*, provided at its top with a ventilating-chimney *d*, having a bail or handle *f*, and at its bottom with an annular foot *g*, upon which it may rest when detached from the car. The back *h* has a central flanged opening *i* for receiving the socket of an incandescent lamp C, which is detachably secured therein by set-screws *j* or other suitable means. Two vertical straps *k* are se-

cured to the back *h*, said straps being offset to bear against the outer face of the dasher A and having their upper ends hooked at *l* to overlap the top of said dasher and support the lantern in position therein, as shown in Fig. 4.

In the bottom of the body, opening into the foot *g*, are ventilation-holes *m*. A cone-shaped reflector D is disposed within the body, its apex *p*, Fig. 2, being of metal and secured in the lamp-opening *i*. The body of the reflector is composed of strips of mirror-glass *q*, secured in the metal apex *p* and diverging therefrom, their outer edges being secured together by a lead fillet *r*. The apex is provided with ventilation-openings *t*.

The front of the lantern is closed by a door F, hinged at its top and secured by a spring-catch *v* at its bottom. This door comprises a metallic ring 15, in which a transparent glass plate 16 is fitted to rotate. A semi-annular metallic flange 17, (see Fig. 1,) secured to said rim, conceals the lower portion of said plate. The plate bears on its face lettering indicating the terminals of the car-route, one of said signs being concealed behind the flange 17, as seen in Fig. 1. The plate is provided with a knob 18, whereby it may be rotated to expose the canceled sign when the route of the car is changed. In the center of the plate a colored convex lens 20 is secured, serving to indicate the general route of the car.

In the dasher A a metallic cylindrical socket H is secured, said socket comprising a cylinder 21, provided with an insulating-block 22, having a central opening 23 to receive the contact-block of an incandescent lamp C. At the inner end of said opening two spring contact-arms 24 are secured, said arms being, respectively, in electrical contact with the conducting-wires on the car. The free ends of these arms have a V-shaped indentation 25 to take in a corresponding groove in the lamp contact-plates. When not in use with the lamp, the opening 23 is closed by a lid 26, pivoted to the dasher. The insulating-block 22 is provided in its outer face with an annular outwardly-flaring recess 28.

The lamp C is of any suitable ordinary form or construction, its insulating-block 29 being elongated to enter the opening 23 in the dasher-socket and faced with contact-plates

30, to which the lamp-wires are respectively secured, and which are engaged by the spring-arms 24 when the lamp is in use. The outer end of the block is grooved to receive the bosses 25 on said arms. The lamp-socket shell fits the opening *i* in the lantern-back. The outer end of said shell is enlarged at 36 to enter the recess 28, its edge engaging the outer inclined wall thereof. (See Figs. 7 and

8.) This arrangement prevents water or moisture on the dasher entering the socket. Said recess being beveled outwardly and annular in form, water entering will be discharged at the lower part thereof.

In the use of our improvement the lamp C is secured in the lantern, its bulb being in front of the reflector-glasses. The lantern is suspended from the dasher by its hook-straps *k*, and the block 29 forced through the opening 23 between the spring-arms 24, completing the circuit in a manner readily understood by all conversant with such matters without a more explicit description. The light is reflected through the transparent front, the sign-letters exposed above the flange 17 being clearly shown thereby and indicating the destination of the car. At the end of the route the lantern is detached and adjusted in like manner at the opposite end of the car.

The front 16 is turned a semi-revolution by means of the knob 18, canceling one terminal sign and exposing the opposite one.

In lanterns of ordinary constructions the transparent front is frequently rectangular in form. This shape prevents the reflector from directing light into the corners, which are thus darker than the center, rendering it difficult to decipher a portion of the signs. Moreover, the signs for both terminals are exposed at the same time, frequently causing confusion. Our invention overcomes these objections, the terminal sign which indicates the direction the car is at that time taking being alone exposed.

We do not confine ourselves to employing colored lens 20 to indicate the general route of the car, as numerals or other symbols may be inscribed on the front for this purpose, if preferred, nor do we confine ourselves to employing mirror-glass for the reflector, as polished metal or other substance may be used.

The lantern may be used with an oil-lamp by forming suitable openings in the reflector to receive such lamp and closing the opening *i* in the rear wall thereof.

Having thus explained our invention, what we claim is—

1. A lantern for street-car head-lights, comprising a body provided with a reflector and having a rotatable transparent front bearing signs indicating the car-route, and a non-transparent plate or flange on said body overlapping said front and normally concealing determined portions of said signs, substantially as described.

2. The lantern B, provided with the door F, having the transparent rotatable sign-plate 16 and semi-annular flange 17, arranged to conceal a portion of said plate, substantially as and for the purpose set forth.

3. The lantern B, provided with a reflector having a socket adapted to receive an incandescent electric lamp, and a door provided with a rotatable transparent sign-plate, a portion thereof being concealed by a projection on said door, substantially as and for the purpose set forth.

4. The lantern B, comprising the body *b*, provided with the reflector D, the door F, having the rotatable transparent sign-plate 16 and flange 17, and straps or hangers for attaching the lantern to a car-dasher, substantially as described.

5. In a device of the character described, the dasher A, provided with the socket H, having the annular flaring groove 28, substantially as and for the purpose set forth.

6. In a device of the character described, the dasher A, provided with the socket H, comprising a shell, an insulating-block, as 22, having a lamp-opening, the flaring recess 28, and spring-contacts for engaging the lamp-contacts, substantially as described.

7. In a device of the character described, the lamp C, provided with the flanged shell 35 and elongated contacts 30, in combination with a dasher provided with a socket having spring-contacts for engaging the lamp-contacts, and a flaring recess for receiving the shell-flange, substantially as and for the purpose set forth.

8. In a head-light lantern, a body provided with a lamp and reflector and means for detachably securing it to a car, in combination with a door on said body, a transparent plate fitted to be rotated in said door and bearing one or more sign-imprints, and a non-transparent flange on said door overlapping said plate and normally concealing determined signs, substantially as described.

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