J. M. RICHARDSON.

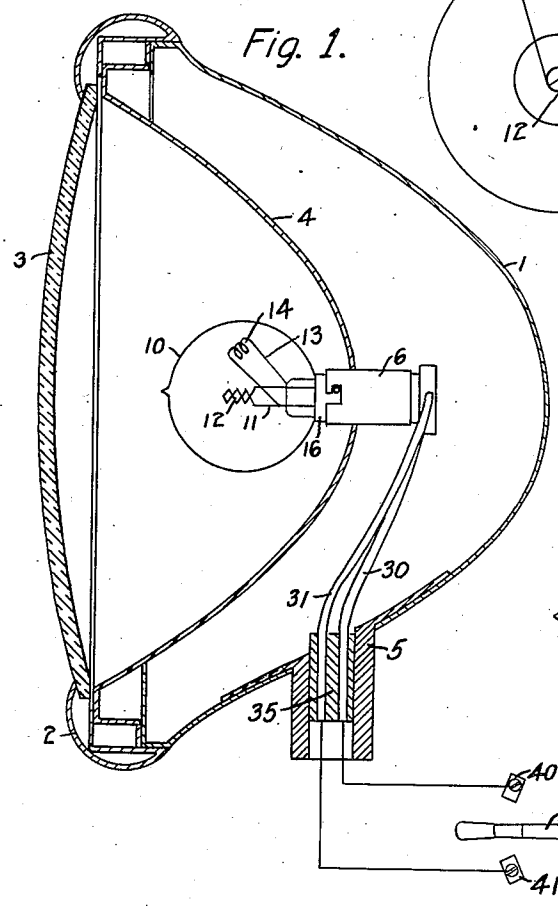
BULB FOR ELECTRIC HEADLIGHTS.

APPLICATION FILED FEB. 16, 1914.

1,269,510.

Patented June 11, 1918.

Fig. 1.



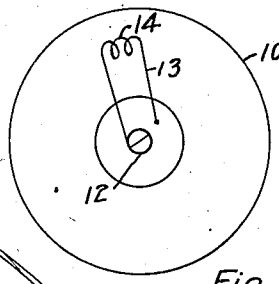


Fig. 5.

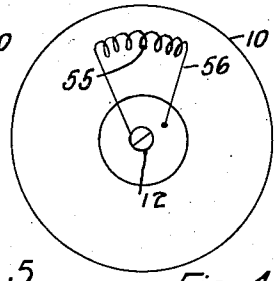


Fig. 4.

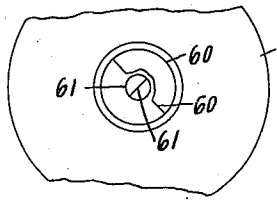


Fig. 7.

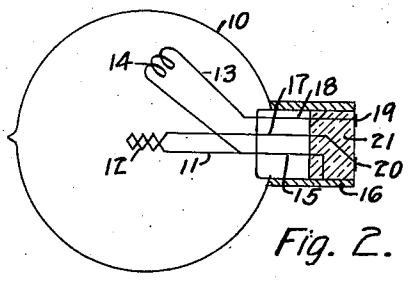


Fig. 2.

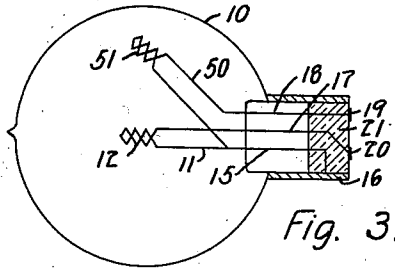


Fig. 3.

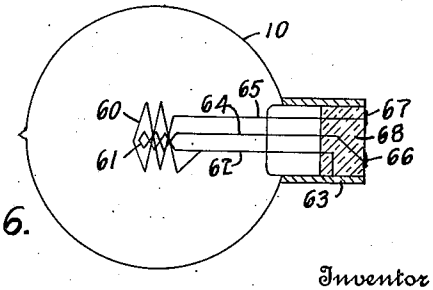


Fig. 6.

Inventor

James M. Richardson.

By Edward N. Pagelsen,

Attorney

Witnesses.

L. M. Spencer.

H. W. Kreinbring.

UNITED STATES PATENT OFFICE.

JAMES M. RICHARDSON, OF HIGHLAND PARK, MICHIGAN.

BULB FOR ELECTRIC HEADLIGHTS.

1,269,510. Specification of Letters Patent. Patented June 11, 1918.

Continuation in part of application Serial No. 793,568, filed October 4, 1913. Patent No. 1,088,094. Divided and this application filed February 16, 1914. Serial No. 818,835.

To all whom it may concern:

Be it known that I, JAMES M. RICHARDSON, a citizen of the United States, and a resident of Highland Park, in the county of Wayne and State of Michigan, have invented a new and Improved Bulb for Electric Headlights, of which the following is a specification.

This invention relates to electric headlights particularly adapted for use with motor vehicles and launches, and its object is to provide a construction whereby light may be projected in parallel beams, or may be projected in divergent beams which are, for the most part, concentrated upon the surface of the way over which the vehicle is traveling.

A further object of this invention is to provide a single incandescent electric lamp bulb having a plurality of separate filaments spaced apart therein.

The general operation of this headlight is somewhat similar to that shown in the pending application of Harrie B. Kenyon, Serial No. 716,561, filed August 22, 1912, for "Headlights"; but the present construction provides for largely concentrating the divergent rays upon the surface of the way in a manner not possible in the Kenyon headlight, and also provides a more simple lamp-construction and system of wiring than is disclosed in the pending application.

Certain features of the invention were shown and claimed in my prior application Serial Number 793568, filed October 4th 1913 (now patent number 1,088,094 of February 24, 1914), and the present application is a continuation thereof in part.

In the drawings, Figure 1 is a longitudinal section of the headlight, showing the system of wiring. Fig. 2 is a longitudinal section of the lamp shown in Fig. 1. Fig. 3 is a longitudinal section of a modified form of lamp. Fig. 4 is a front view of a second modified form of lamp. Fig. 5 is a front view of the lamp of Fig. 1. Fig. 6 is a longitudinal section of a third modified form of lamp. Fig. 7 is a front view of the lamp shown in Fig. 6, parts of the bulb being broken away.

Similar reference characters refer to like parts throughout the several views.

The lamp body 1 supports the lens ring 2, lens 3, reflector 4, which is preferably parabolic, and this body may be mounted upon the vehicle or launch at any preferred position by means of a bracket 5 that is secured to the lamp body in any manner desired. A lamp socket 6 is mounted at the rear of the reflector in the ordinary way.

Secured in the lamp socket 6 by any approved means is an incandescent lamp bulb 10. This bulb is provided with a main central filament 11, the body 12 of the heated portion of which is preferably located at or near the center of the bulb, and is also provided with a second or secondary filament 13, the body 14 of the heated portion of which is spaced laterally a distance from the heated portion 12. The body 14 of the heated portion preferably extends crosswise of the bulb some distance in a plane at about right angles to the axis of the bulb for a purpose hereinafter set forth.

To simplify the construction of the lamp, the filaments 11 and 13 may have a common wire 15 which connects to the metal sleeve 16, while the opposite sides of filaments 11 and 13 are connected respectively to wires 17 and 18 that extend through the insulating piece 21, of any approved type, and terminate in contacts 19 and 20. The sleeve 16, together with insulation 21, constitute a base for the lamp.

The metal sleeve 16 is preferably electrically grounded with the frame of the vehicle or launch through socket 6, reflector 4, lamp body 1, and bracket 5.

The wires 30 and 31 connect to terminals (not shown) in the socket 6, and when the lamp is in the socket, the contacts 19 and 20 engage with these terminals.

While the construction just described is preferred because of its simplicity, it is obvious that two wires may be substituted for the common wire 15 of the filaments 11 and 13, in which case it would only be necessary to provide another wire and socket terminal corresponding to the wires 30 and 31.

The wires 30 and 31 are separated from one another in bracket 5 in any desired manner, preferably by the insulation 35, and are connected, respectively, to conventionally shown terminals 40 and 41, with which a switch bar 42, pivoted at 43, is adapted to engage. Any suitable source of current 44 may be connected to pivot 43 by wire 45, and preferably grounded with the frame of

the vehicle or launch at 46 by means of a wire 47. Any type of switch may obviously be substituted for that shown.

The lamp bulb shown in Fig. 3 differs from that just described in the filament 50, which corresponds to filament 13. The body of the heated portion 51 of a secondary filament 50 consists of a double spiral that concentrates the source of light in a less space than does the single spiral 14. This provides a construction that may be more rigid and less subject to injury due to vibration than that shown in Fig. 2.

The lamp bulb shown in Fig. 4 differs from that shown in Figs. 1 and 2 only in that the heated portion 55 of a secondary filament 56 is curved, preferably substantially concentric with the longitudinal axis of the reflector, the object being to obtain a less concentrated reflection of the diverent rays than is possible with either of the other types of filaments shown.

The lamp bulb shown in Figs. 6 and 7 differs from those previously described in that the secondary filament 60 extends entirely around the central filament 61. As shown, the body of the heated portion of each of the filaments is a double spiral, one end of each of the filaments being fed by the common wire 62 that leads to the metal sleeve 63. The other end of the central filament is secured to the wire 64, and the other end of the secondary filament is secured to the wire 65, these wires leading, respectively, to the terminals 66 and 67. The wires 62, 64 and 65 are separated from one another by the insulation 68. It will be understood that other forms of filaments than the double spiral type shown may be used, either for the central filament, or for the secondary filament, or both.

The laterally extending filaments 13, 50, 56 and 60 will usually be made of less candle power than the central filament 11, if desired.

Operation.

The lamp is inserted in the reflector so that the lateral filament 13, 50 or 56, as the case may be, is above the central filament, the incandescent part of the latter being at the focal center of the reflector. When the switch 42 is turned so as to permit the passage of current through the central filament, the light is projected forward in parallel beams, which is particularly desirable when a motor vehicle is traveling on country roads. On the other hand, when the switch is turned so that the current will pass through the secondary filament, the light is projected in divergent rays, and the greater portion of it is directed downwardly so as to strike the surface of the road or way at a comparatively short distance ahead of the vehicle. At the same time it is spread out laterally across the way and illuminates a considerable width thereof, which is especially desirable in cities, as it warns foot passengers without blinding them.

When the bulb shown in Figs. 6 and 7 is inserted in the reflector, the diffused light therefrom will be scattered substantially uniformly about the axis of the reflector, and not concentrated largely at one side, as in the case of the other bulbs.

Obviously many changes may be made in the construction of this headlight without departing from the spirit of my invention, or losing any of its advantages.

Having now described my construction, what I claim as my invention and desire to secure by Letters Patent is:—

1. An incandescent electric lamp comprising a cylindrical base, a substantially spherical bulb attached thereto, and a pair of filaments within the bulb, one of the filaments being positioned with the body of its heated portion substantially in the axis of the base at substantially the center of the bulb, the other filament being positioned with the body of its heated portion adjacent to but spaced apart from the heated portion of the first mentioned filament at one side thereof, said second filament also being spaced from the axis of the base.

2. An incandescent electric lamp bulb comprising a cylindrical base, a bulb attached thereto, one of the filaments being positioned with the body of its heated portion substantially in the axis of the base, the other filament being positioned with the body of its heated portion spaced apart considerably from the heated portion of the first mentioned filament and located substantially wholly at one side of the axis of the base.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES M. RICHARDSON.

Witnesses:
L. M. SPENCER,
HUGO W. KREINBRING.