

UNITED STATES PATENT OFFICE.

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HEADLIGHT.

1,229,474.

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To all whom it may concern:

Be it known that I, HARRIE B. KENYON, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Headlights, of which the following is a specification, reference being had therein to the accompanying drawings.

10 In the use of head lights for automobiles and the like it is desirable that the beam therefrom be as sharply defined and concentrated as possible for use in traversing country roads while a light of lower candle power and of diffused rays is preferable for use in city work.

15 This invention relates to a head light for automobiles and more particularly to an arrangement thereof whereby the light may be changed from a straight beam of high candle power to one of lower candle power with diffused rays, at the will of the operator by the turning of a switch.

20 The invention also includes such disposition of the incandescent filaments that both give a complete distribution of light in the field of the beams projected from the reflector one of such members being situated at substantially the focal center of the reflector used, while the other filament is disposed in the same plane as the first filament, vertical to the focal axis of the reflector.

25 The invention consists in the matters hereinafter set forth and pointed out in the claims.

30 The drawing is a view partially in vertical section and partially in elevation of a head light that embodies features of the invention.

40 As herein shown in preferred form a reflector 1 that is parabolic, has a tubular socket 2 mounted in any preferred manner in a suitable support 3, the socket being in axial alinement with the reflector. A standard 4 that is proportioned to intercept as little light as possible, is mounted on the inner face of the reflector with a bearing boss 5 in alinement with the sleeve 2. An incandescent electric lamp bulb 6 has a comparatively short filament 7 of high candle power that is connected to terminal leads indicated at 8 which pass through a socket 9 and is rotatable and longitudinally reciprocable in the boss 5. A bushing 10 with bayonet slot engaging a projection 11 on the

socket is interposed between the latter and the boss 5 for convenience in assembling.

A filament 12 of lower candle power than the filament 7 is likewise mounted in the bulb 6 with its leads indicated at 13 passing through a ferrule 14 on the bulb which interlocks as by a projection 15 and bayonet lock 16, with a bushing 17 rotatable and longitudinally reciprocable in the tubular socket 2 of the reflector.

60 The filament 7 is so disposed as to be substantially at the focal center of the reflector 1 so that its rays as indicated at 18 are projected in substantially parallel relation to form a concentrated beam that is particularly useful in traversing country roads and the like. The other filament 12 is so arranged that it overlaps or surrounds the filament 7 and lies for the most part outside of the focal center of the reflector. It is also disposed in substantially a single plane perpendicular to the axis of the parabola that passes through the focal center and as a consequence its rays as indicated at 20 are projected in such manner as to be divergent.

80 With the use of a suitable switch near the operator's station the user can instantly change the head light from one throwing a comparatively intense and straight beam, such as is specially adapted for use on country roads into one having less power and throwing divergent rays. The latter is best fitted for use in the city where the lights are more important as signals to passing vehicles than for illuminating the road traversed. 90 As a result of this disposition, the central filament gives not only a comparatively intense and straight beam but also a beam in which a light is evenly diffused thereby producing no dark shadows or spots in the surface against which it is projected. Similarly the position of the outer filament in the vertical focal plane around the first filament produces a comparatively divergent or cone shaped beam, in which, because of the disposition of the filament in the plane vertical to the focal axis through the focal center, the light is evenly diffused without producing any dark spots therein.

95 It is to be understood that the mechanical disposition of the filaments and support of the lamps may be varied and that the socket and standard may be replaced by a suitable single socket if preferred, while the entrance of the filaments into the bulb is of course, 100 110

such as mechanical expediency may require although they are herein shown as entering from opposite ends.

The form of reflector which produces the best result is substantially that of a parabola but other forms of reflectors approximating the parabola to a greater or less extent give satisfactory result and variations in the reflecting surface may be made without affecting appreciably the operation of the device.

Obviously, changes in the details of construction may be made without departing from the spirit of my invention and I do not care to limit myself to any particular form or arrangement of parts.

What I claim is:—

1. In a headlight, the combination of a reflector having a focal center, an incandescent electric lamp bulb mounted in the reflector and provided with a pair of filaments, one of the filaments being of high candle power and positioned with its heated portion at the focal center of the reflector so that the rays therefrom are projected in substantially parallel beams, and the other filament being of lower candle power and positioned in symmetrical relation to the first filament and away from the focal center so that the rays therefrom are projected in diverging beams and electric circuits for heating either filament at will.

2. In a headlight, the combination of a reflector having a focal center, an incandescent electric lamp bulb mounted in the reflector and provided with two filaments, one of which is positioned with its heated portion at the focal center of the reflector so that the rays therefrom are projected in substantially parallel beams, and the other filament arranged symmetrically in relation to the first in the plane that passes through the focal center perpendicularly to the reflector axis so that the rays therefrom are projected in diffused diverging beams and electric circuits for heating either filament at will.

3. In a headlight, the combination of a parabolic reflector having a tubular axial socket and a standard within the reflector having a bearing boss in alinement with the socket, with an incandescent electric lamp bulb mounted in the socket and standard and provided with a filament of high candle power at the focal center of the reflector and a filament of low candle power adjacent the other filament.

4. In a headlight, the combination of a parabolic reflector, a tubular socket on the reflector in axial alinement therewith, and a standard on the reflector having a bearing boss in alinement with the socket, with an incandescent electric lamp bulb having op-

positely disposed sockets detachably mounted in the bearing boss and reflector socket, a filament of high candle power in the lamp at a focal center of the reflector, and a filament of low candle power in the lamp adjacent the other filament.

5. In a headlight, the combination of a parabolic reflector, a tubular axial socket extending rearwardly therefrom, and a standard on the interior of the reflector having a bearing boss alined with the socket, with an incandescent electric lamp bulb, oppositely disposed sockets on the bulb detachably engaging the bearing boss and the reflector socket, a filament in the lamp at the focal center of the reflector, and a filament of different candle power than the focal filament mounted in the lamp adjacent to the latter.

6. An automobile lamp, comprising a casing having a reflector portion, an incandescent lamp mounted within the casing and having a filament in focus with the reflector portion and another out of focus with said reflector, and electric circuit wires leading to the filaments and a switch for completing the circuit to one of the filaments independently of the other.

7. An automobile lamp, comprising a casing having a reflector portion, an incandescent lamp mounted within the casing and having a filament in focus with the reflector portion and another filament out of focus with said reflector, electric circuit wires leading to said filaments, and a switch for completing the circuit to one or the other of said filaments.

8. An automobile lamp, comprising a casing having a reflector portion, an incandescent lamp mounted within the casing and having a filament in focus with the reflector portion and another filament out of focus with said reflector, one of said filaments being of less candle power than the other filament, electric circuit wires leading to said filaments, and a switch for completing the circuit to one or the other of said filaments.

9. An automobile lamp including a reflector having a focal center, an incandescent lamp mounted within the casing and having a filament in focus with the reflector and another filament out of focus with said reflector, and electric circuit wires leading to the filaments, and switch mechanism for completing the circuit to one of the filaments independently of the other.

In testimony whereof I affix my signature in presence of two witnesses.

HARRIE B. KENYON.

Witnesses:

OTTO F. BARTHEL,
LEWIS E. FLANDERS.