F. BUCHANAN.

HEADLIGHT.

APPLICATION FILED JUNE 12, 1912.

1,136,404.

Patented Apr. 20, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

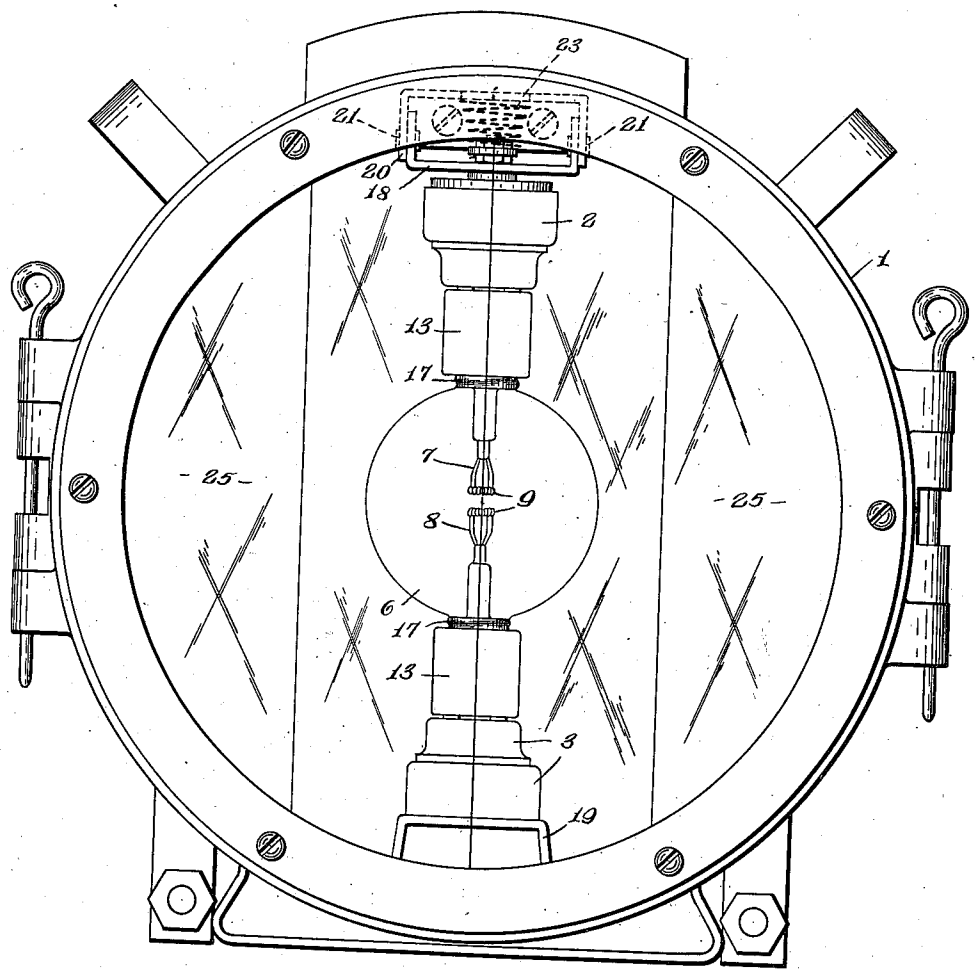
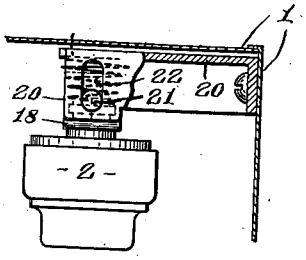


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 2.

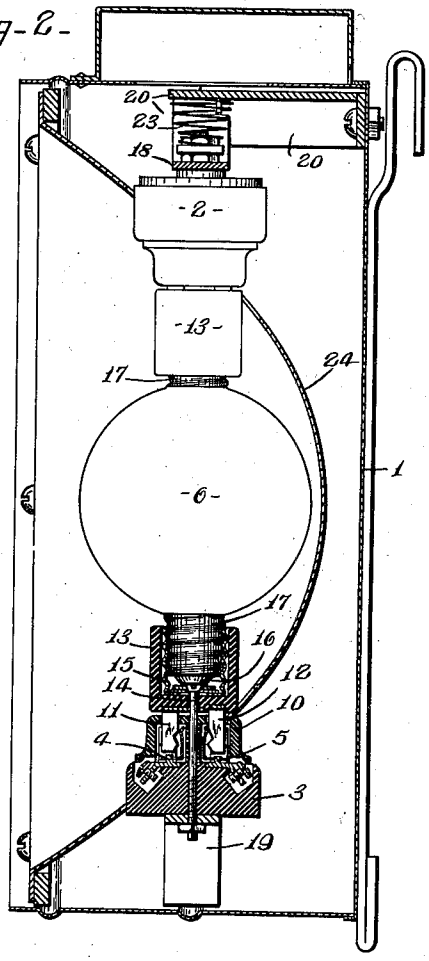


Fig. 3.

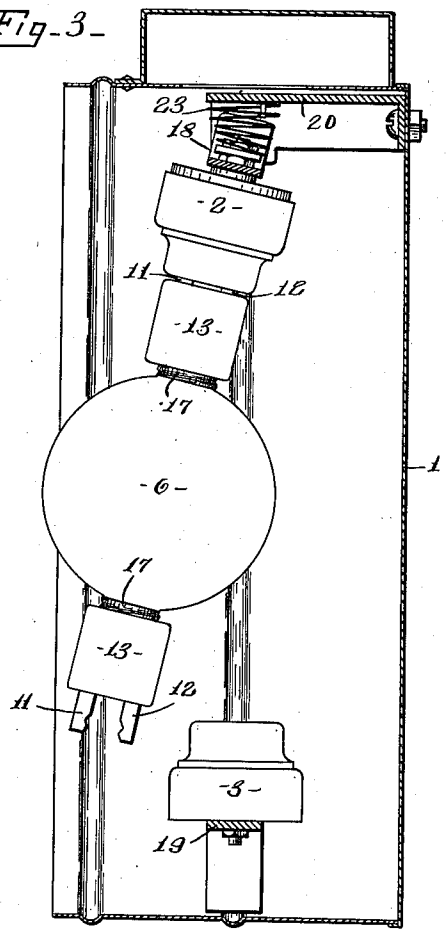
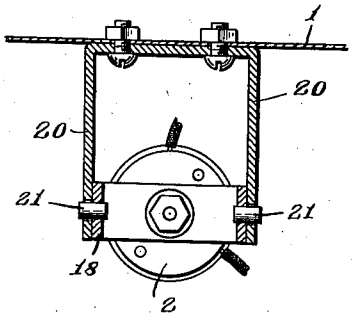


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK BUCHANAN, OF SYRACUSE, NEW YORK.

HEADLIGHT.

1,136,404. Specification of Letters Patent. Patented Apr. 20, 1915.

Application filed June 12, 1912. Serial No. 703,234.

To all whom it may concern:

Be it known that I, FRANK BUCHANAN, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Headlight, of which the following is a specification.

This invention has for its object the production of a headlight having an incandescent electric lamp provided with a plurality of filaments arranged with their incandescing portions grouped together in order to increase the power of the lamp; and the invention consists in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a front elevation of a headlight embodying my invention. Figs. 2 and 3 are vertical sectional views taken centrally of Fig. 1, the lamp in Fig. 3 being shown in one of its intermediate positions occupied when being placed in position or removed. Figs. 4 and 5 are fragmentary views illustrating the support for the upper fixture for the lamp, Fig. 4 showing such fixture and the support in side elevation, and Fig. 5 being a horizontal sectional view through the support.

This headlight comprises, generally, opposing pairs of terminals, and an incandescent electric lamp having pairs of oppositely disposed terminals for connection with the first-mentioned terminals, the lamp including filaments connected respectively to the pairs of terminals thereof and arranged with their incandescing coils close together.

1 is the casing of the headlight, and 2 and 3 are opposing supports or fixtures suitably secured within the casing, each fixture carrying a pair of terminals 4, 5.

6 is the incandescent electric lamp having a plurality of filaments 7, 8 here shown, as extending radially toward the center of the lamp and terminating in incandescing coils 9 located close together, each filament 7, 8 being connected to a pair of terminals associated with the lamp and designed to contact respectively with the terminals 4, 5 of the fixture 2 or 3.

In the illustrated embodiment of my invention, the fixtures 2, 3 are formed with sockets 10, in which the terminals 4, 5 thereof are located; and the lamp has two pairs of prongs or terminals 11, 12 associated therewith, each pair 11, 12 being designed to enter the sockets 10 of one of the fixtures 2, 3 and contact with the terminals 4, 5 therein. Each pair of prongs 11, 12 is here shown as carried by a socket 13 having central and screw threaded terminals 14, 15 for engaging respectively with the central terminal 16 and the screw threaded plug terminal 17 provided on the lamp, the pairs of terminals 16, 17 of the lamp being located diametrically opposite each other and being similarly threaded so that, after the sockets 13 are screwed in position on the plugs of the lamp, turning and hence loosening of the lamp is prevented. Each pair of prongs 11, 12 is connected in any suitable manner with the terminals 14, 15 respectively of the corresponding socket 13.

The lamp is placed in position by a pivotal and axial movement, and one of the fixtures 2, 3, here shown as the upper fixture, is pivoted on an axis extending crosswise of the axis of the lamp 6, and is also movable lengthwise of such axis, and, as here shown the fixtures 2, 3 are supported by yokes 18, 19, and the yoke 18 supporting the upper fixture 2 is connected to a supporting bracket 20 by pivot pins 21 on the yoke which pins slide in vertical slots 22 in the bracket 20. The axial movement of the upper fixture 13 is resisted by a coil spring 23 interposed between the intermediate part of the yoke 18 and the bracket 20.

Owing to the arrangement of the lamp filaments, their greatest incandescing portions 9 can be grouped at or near the focal axis of the light focusing means as a reflector 24 or a lens occupying the position of the glass front 25.

Heretofore, incandescent electric lamps could not be focused with any accuracy so as to throw a beam of light strong enough for headlight and search light purposes, but by my arrangement of the filaments of the incandescent electric lamp relatively to the focal axis of the lens or reflector, a light with an incandescent lamp of power great enough for headlights, is produced.

My headlight is particularly advantageous in that standard fixtures and parts are used, such as the fixtures 2, 3, and the sockets 13, hence simplifying the manufacture of the lamp.

In operation, the sockets 13 are screwed in position on the plugs of the lamp 6, and the prongs 11, 12 of the upper socket inserted in the sockets 10 of the upper fixture 2 in contact with the terminals 4, 5 thereof, the fixture 2 having been previously shifted into the position shown in Fig. 3. The lamp is then pressed upwardly axially compressing the spring 23 until the prongs 11, 12 of the lower socket 13 are raised high enough to clear the upper face of the lower fixture 3. The lamp is then swung inwardly about the axis of the pins 21 until the prongs 11 and 12 of the lower socket 13 are alined with the sockets 10 of the lower fixture 3. The lamp is then permitted to be shifted axially by the spring 23 causing the prongs 11 and 12 of the lower socket 13 to contact the terminals 4, 5 of the lower fixture 3. Thus when in position, the lamp cannot be turned loose by vibration.

What I claim is:

1. A headlight comprising opposing fixtures, each having a pair of contact terminals, and an incandescent electric lamp having two pairs of terminals associated therewith for coacting with the first-mentioned terminals, one of the fixtures being pivoted on an axis extending transversely relatively to the axis of the lamp, substantially as and for the purpose set forth.

2. A headlight comprising opposing fixtures, each having a pair of contact terminals, and an incandescent electric lamp having two pairs of terminals associated therewith for coacting with the first-mentioned terminals, one of the fixtures being pivoted on an axis extending transversely relatively to the axis of the lamp, and being also shiftable axially for facilitating placing and removal of the lamp, and a spring for resisting the axial movement, substantially as and for the purpose described.

3. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, and an incandescent electric lamp provided with two pairs of projecting terminals or prongs for entering the sockets and engaging the terminals therein, substantially as and for the purpose specified.

4. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, and an incandescent electric lamp provided with two pairs of projecting terminals or prongs for entering the sockets and engaging the terminals therein, one of said fixtures being pivoted on an axis extending transversely of the axis of the lamp, and being also movable lengthwise of the latter axis, substantially as and for the purpose set forth.

5. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, an incandescent electric lamp provided with two pairs of projecting terminals or plugs for entering the sockets and engaging the terminals therein, one of the said fixtures being pivoted on an axis extending transversely of the axis of the lamp, and being also movable lengthwise of the latter axis, and a spring for resisting the lengthwise movement of said fixture, substantially as and for the purpose described.

6. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, an incandescent electric lamp having two pairs of terminals, each pair consisting of a central terminal and screw threaded plug, a plug socket turning on each of the plugs and having a pair of projecting terminals or prongs for entering the sockets of the corresponding fixture and engaging the terminals thereof, substantially as and for the purpose specified.

7. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, an incandescent electric lamp having two pairs of terminals, each pair consisting of a central terminal and screw threaded plug, a plug socket turning on each of the plugs and having a pair of projecting terminals or prongs for entering the sockets of the corresponding fixture and engaging the terminals thereof, one of the fixtures being pivoted on an axis extending transversely of the axis of the lamp, and also being shiftable axially of the latter axis, substantially as and for the purpose set forth.

8. A headlight provided with opposing fixtures, each having a pair of sockets and terminals in the sockets, an incandescent electric lamp having two pairs of terminals, each pair consisting of a central terminal and a screw threaded plug, a plug socket turning on each of the plugs and having a pair of projecting terminals or prongs for entering the sockets of the corresponding fixture and engaging the terminals thereof, one of the fixtures being pivoted on an axis extending transversely of the axis of the lamp, and also being shiftable axially of the latter axis, and a spring for resisting the axial movement, substantially as and for the purpose described.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, and State of New York, this 2d day of May, 1912.

FRANK BUCHANAN.

Witnesses:
L. M. DAVIS,
S. DAVIS.