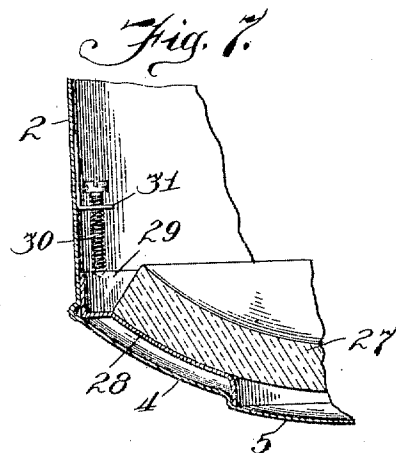
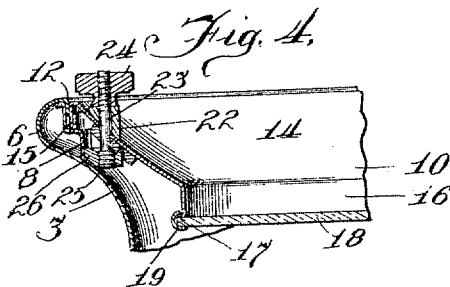
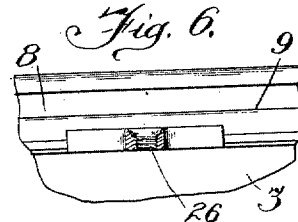
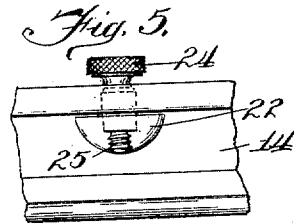
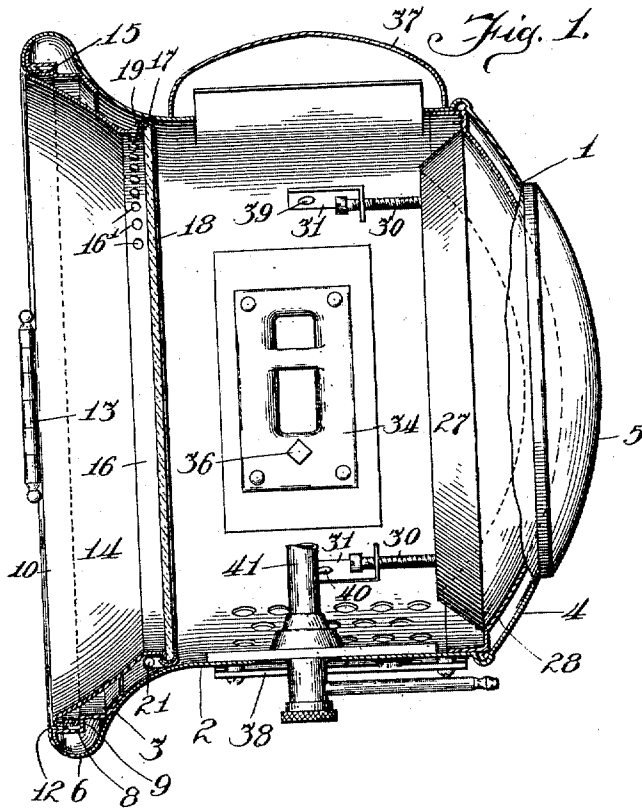


R. H. WELLES.
HEADLIGHT.
APPLICATION FILED AUG. 25, 1909.

Patented Jan. 10, 1911.
2 SHEETS—SHEET 1.

981,044.



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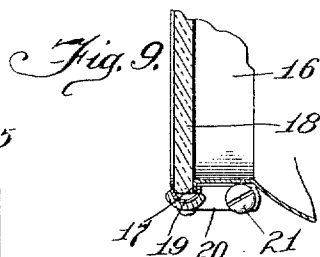
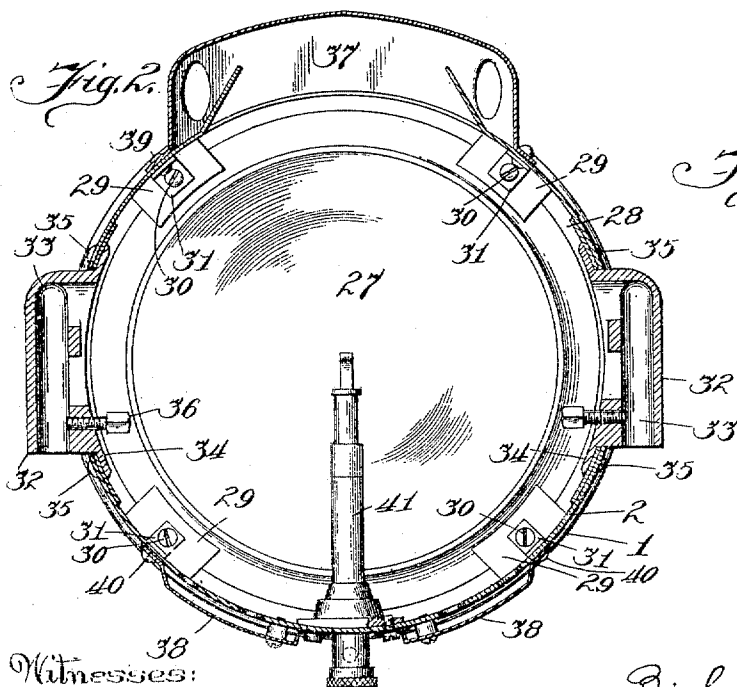
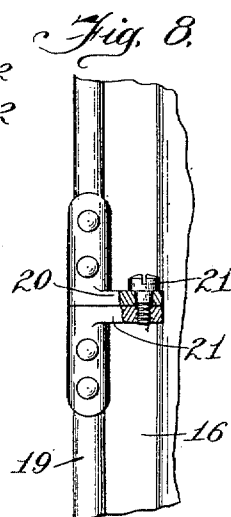
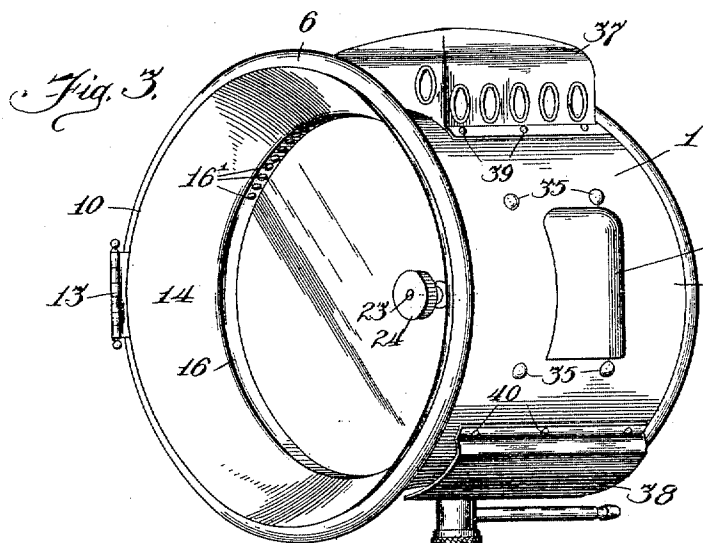
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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HEADLIGHT.

981,044.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed August 25, 1909. Serial No. 514,481.

To all whom it may concern:

Be it known that I, RICHARD H. WELLES, a citizen of the United States, residing in the city of Kenosha, county of Kenosha, and State of Wisconsin, have invented certain new and useful Improvements in Headlights, of which the following is a specification.

This invention relates to improvements in headlights, and refers more particularly to headlights adapted for use with automobiles, motor boats, and the like.

Among the salient objects of the invention are to provide a construction in which the main body of the headlight consists of a single piece of sheet metal, which is at the same time externally beaded and curved in order to secure a finished and attractive appearance; to provide a construction which presents a relatively smooth exterior surface substantially free from protruding screws or rivets whereby it can be readily cleaned or polished, and which does not accumulate dust, dirt, etc.; to provide in a construction of the character referred to an improved flaring front or door which adds materially to the attractiveness of the lamp and which also secures a maximum efficiency in diverging the rays; to provide novel means for securing the crystal and the reflector in position; to provide an improved bracket support which excludes dust and dirt and moisture from the supporting connections of the lamp and at the same time presents a more finished appearance; and in general, to provide in a device of the character referred to improved details in construction and arrangement of the various parts.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claims.

In the drawings—Figure 1 is a vertical sectional view of my improved headlight; Fig. 2 is a similar sectional view taken approximately at right angles to the view shown in Fig. 1; Fig. 3 is a perspective view of the same; Fig. 4 is a fragmentary detail view showing the manner of locking the door in closed position; Fig. 5 is a fragmentary edge elevation of the door and the locking screw carried thereby; Fig. 6 is a fragmentary inside elevation of the rim, showing the stationary nut that coöperates with locking screw car-

ried by the door; Fig. 7 is a view similar to Fig. 4, showing the manner of confining the reflector in position; Fig. 8 is a detail sectional view showing the manner of locking the crystal in place; Fig. 9 is a top plan view of Fig. 8.

Referring to the drawings, 1 designates as a whole the main body of the headlight comprising a cylindrical barrel or side body 2, a flaring front 3, and a convex rear end wall 4, having a rearwardly offset central portion 5. As constituting an important feature of the present invention, this main body 1 is drawn out from a single piece of metal and in such a way as to secure a smooth exterior surface devoid of sharp angles or edges. The flaring front 3, for example, curves gradually and evenly into the adjacent end of the cylindrical barrel 2, and is rounded off or headed at its outer end as shown at 6 in order to avoid sharp edges and to give a more finished appearance. Within the rounded outer edge or rim of this flaring front is suitably secured a seat ring 8 having an internal ledge or shoulder 9 which forms a stop for the door 10 hereinafter more particularly described. To confine the outer edge of the ring 8 in position the outer edge of the flaring front 3 is bent back over the outer edge of the ring, as shown at 12.

Describing now the front closure member or door of the headlight, to the outer edge or bead of the flaring front 3 is hinged as shown at 13 the door designated as a whole 10. This member comprises an interiorly concave tapered ring 14 bent back upon itself at its front end to form a flange 15 and provided at its rear end with a short cylindrical extension 16 concentric with the barrel of the headlight. This extension is preferably provided with air holes 16' and terminates in an outwardly extending flange 17 against which is seated the edge of the front glass or crystal 18. The latter is confined in position by means of a split locking ring 19 channeled to fit over the edge of the crystal 18 and the flange 17 in order to hold the former in position. The meeting ends of this ring are drawn and locked together by means of a pair of opposed lugs 20 secured respectively to the ends of the ring and connecting screw 21. The front flange 15 of the door is so formed as to fit closely within the end of the front opening so as to exclude dust, dirt, moisture, etc. The con-

cave ring 14 is preferably made of highly burnished metal and is so constructed as to reflect the rays of light, thus securing a beam approximately equal in diameter to the larger end of the flaring front 3.

Describing now the means of locking the door, upon the concave ring 14 is secured a bolt-holder 22 (Figs. 4 and 5), in which is confined a lock-bolt 23 having a head 24 and an enlarged screw-threaded inner end 25. Inasmuch as this screw-threaded portion 25 is of greater diameter than the bore of the holder, the bolt is confined in position within the latter. The arrangement is such, however, as to allow limited longitudinal movement of the bolt within the holder. To the inner periphery of the seat ring 8 is secured a threaded lug 26 which constitutes a fixed nut to receive the inner end of the bolt 23 and thus lock the door to the main body.

Within the rear of the headlight is a seated reflector 27. This reflector is of slightly less diameter than the interior of the barrel of the lamp; and to provide for its easy and accurate adjustment so that its focal axis shall coincide with the axis of the lamp barrel and crystal, as well as to secure it strongly and rigidly in place, I mount it in the following manner. To the inner surface of the rear end of the barrel and offset portion of the rear wall is soldered at its marginal portions a concave annular supporting ring 28, on which the reflector seats, in the manner clearly shown in Fig. 7. The reflector is both adjusted and held rigidly to its position upon the seat 28 by means of a plurality of wedge-shaped locking blocks 29 located between the margin of the reflector and the opposed wall of the barrel of the lamp or, as herein shown, the inner marginal portion of the strip 28 that is soldered to the wall of the barrel. These wedge-blocks 29 are actuated by screws 30 mounted in threaded lugs 31 riveted to the shell of the lamp. By providing a series of such devices at suitably spaced intervals, the reflector is very strongly and rigidly held in position, with capacity for easy adjustment of its focal axis when required.

The headlight as a whole is designed to be supported upon forks in the usual way, and is accordingly provided at either side with socketed supporting brackets or lugs 32. Each of these lugs extends through a suitable aperture in the side of the barrel 2 and comprises a hollow casting closed at its upper end as shown at 33 and having a lateral supporting flange 34 which fits against the interior of the shell and is riveted thereto, as shown at 35. For the sake of lightness, the inner face of the casting is cut away or given a skeleton formation for engagement with the inner sides of the usual supporting forks. The lugs are locked to the forks by means of internal set-screws 36

set in the lower portions of the lugs. It will be noted that these supporting lugs are so constructed as to exclude dust and dirt from the interior of the headlight, and at the same time present a neat and attractive appearance.

The lamp is provided with the top and bottom ventilators 37 and 38, respectively, secured by rivets 39 and 40 to the shell or barrel of the lamp, certain of these rivets also serving to secure the bearing brackets 31 of the screws 30 in position. The usual burner 41 passes through the wall of the barrel 2 between the upper and lower ventilators 38.

I claim:

1. In a headlight, the combination with a body member, of a flaring front portion formed as a continuation of said body member and of greater width than the latter, a seat ring secured within the outer larger end of said flaring front portion, a door structure comprising a tapered ring exteriorly concave in cross section, open at its wider edge and extending into the flaring front portion, the outer end of said ring abutting against the seat portion, and a crystal closing the inner narrow edge of said ring.

2. In a headlight, the combination with a main body member, of supporting brackets therefor, each of said brackets comprising a flange portion secured to an inner side wall of said main body member, and a socket portion projecting through said side wall.

3. In a headlight, the combination with a main body member, of supporting brackets and fastenings therefor, each comprising a flange portion secured to an inner side wall of said main body member, a socket portion projecting through said side wall, and a set-screw mounted in the inner wall of said socket portion and operable from the inside of said main body member.

4. In a headlight, the combination with a main body member, of a door structure therefor comprising a supporting ring provided at its inner edge with a flange, a disk seated against said flange, and a channeled locking ring embracing the edges of said disk and flange.

5. In a headlight, the combination with a main body member, of a door structure therefor comprising a supporting ring provided at its inner edge with a flange, a disk seated against said flange, a divided channeled locking ring embracing the edges of said disk and flange, and means for locking together the ends of said rings.

6. In a headlight, the combination with a cylindrical body member, of a flaring front of greater diameter than the body member, a seat ring in the outer end of said flaring front portion, and a door structure compris-

ing a tapered ring exteriorly concave in cross section extending into the flaring front portion, and a crystal in the inner narrow edge of said ring.

5 7. In a headlight, the combination with a main body member, of a door structure therefor comprising a tapered ring exteriorly concave in cross-section open at its wide edge and having a lateral flange on its narrow edge, a crystal seated against said flange, and a channeled locking ring embracing the edges of said crystal and flange.

10 8. In a headlight, the combination with a main body member, and a reflector therein, of means for securing said reflector in position comprising a plurality of wedge-blocks between the edge of the reflector and the interior wall of the body member, and means for adjusting and securing said wedge-blocks.

15 9. In a headlight, the combination with a main body member, and a reflector therein the edge whereof in transverse dimension lies at an angle to the opposed wall of said body member, of means for securing said reflector in position comprising a plurality of wedge-blocks between said edge of the reflector and the interior wall of the body member, and means for adjusting and securing said wedge-blocks.

20 10. In a headlight, the combination with a main body member, and a reflector therein, of a seat ring secured to the inner wall of

said body member and forming a rest for the back of said reflector, and means for securing said reflector in position comprising a plurality of wedge-blocks between the edge of the reflector and the interior wall of the body member, and means for adjusting and securing said wedge-blocks.

40 11. In a headlight, the combination with a main body member, and a reflector therein, of a seat ring secured to the inner wall of said body member and forming a rest for the back of said reflector, and means for securing said reflector in position comprising a plurality of wedge-blocks between the edge of the reflector and the interior wall of the body member, lugs secured to the interior wall of the body member, and screws threaded through said lugs and bearing upon the broad ends of said wedge-blocks.

45 12. In a portable lamp, the combination with the body thereof of a supporting lug provided with a base flange fitting against and secured to the interior of the shell and extending as to its main body outwardly through the shell, said main body being provided with a socket aperture extending upwardly from its lower side and closed as to its upper end.

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Witnesses:

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