

April 23, 1929.

F. E. PARKLER

1,710,187

HEADLIGHT

Filed Jan. 2, 1926

2 Sheets-Sheet 2

Fig. 2.

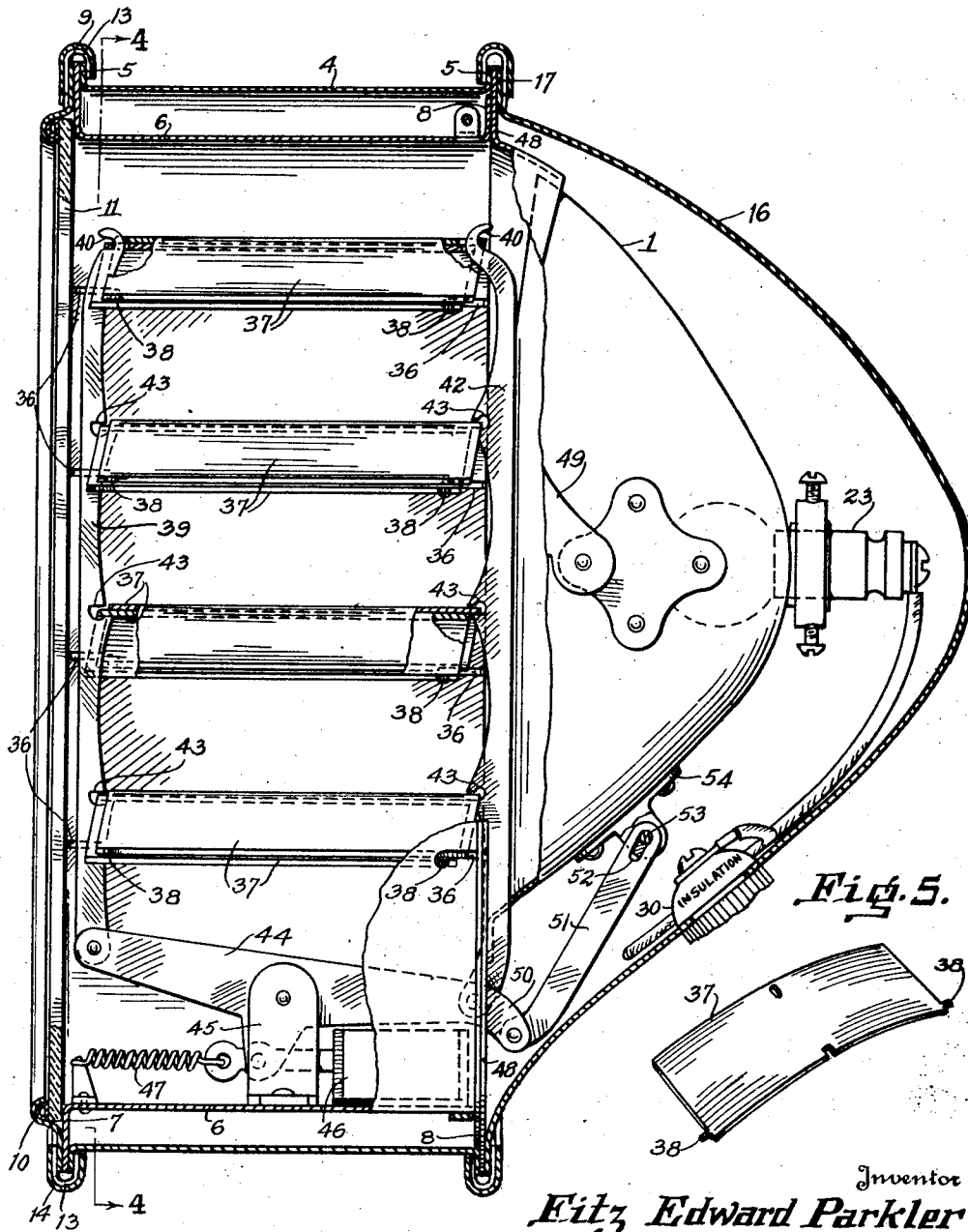


Fig. 5.

Inventor
Fitz Edward Parkler

Mason Fenwick Lawrence
Attorneys

UNITED STATES PATENT OFFICE.

FITZ EDWARD PARKLER, OF CHICAGO HEIGHTS, ILLINOIS.

HEADLIGHT.

Application filed January 2, 1926. Serial No. 78,967.

This invention relates to a headlight. It more particularly relates to a headlight adapted to be used upon automobiles or other vehicles and in which means are provided for changing the direction of the light rays.

An object of the invention is to provide a headlight wherein the vertical direction in which the light rays are cast may be readily altered.

A further object of the invention is to provide means for modifying the direction of the light rays both by introducing supplementary reflecting surfaces in the form of shutters and by modifying the angle of the main reflector of the lamp. Further to provide for the successive operation of the auxiliary or shutter reflectors and that of the main reflector so that the latter will operate to supplement the effect of the former only when essential.

A further object is to provide an improved arrangement of the auxiliary or shutter reflectors so that a minimum number of such reflectors when not in use will be compactly arranged in such manner as to permit ready access to the interior of the lamp for adjusting or replacing the light bulb and for cleaning the main reflector.

Another object is to provide a headlight which is efficient in operation and is readily and inexpensively manufactured.

Other objects and advantages will hereinafter appear. The invention contemplates in its preferred embodiment, a headlight having means arranged therein for deflecting vertically the light rays. The said means may be operated by electro-magnetic means or manually as desired.

Two sheets of drawings accompany this specification as part thereof.

Fig. 1 is a vertical cross-section view showing the shutters and reflector in deflected position.

Fig. 2 is a vertical cross-section view showing the shutters and reflector in normal or elevated position.

Fig. 3 is a front elevation showing the shutters deflected.

Fig. 4 is a front elevation partly in section showing the shutters elevated.

Fig. 5 is a perspective view of a shutter.

In accordance with this invention the headlight casing comprises a housing 4 having edge flanges 5—5 and an interior housing

6 having edge flanges 7—7. A front frame member 10 has a flange 9 and a rear frame member 48 carries rearwardly projecting brackets 49 between which is pivoted a parabolic reflector 1. A rear casing member 6 is provided with flanges 17. Two U-shaped members 13 surround and embrace the flanges of the casing members front and back and these U-shaped members 13 are secured together by suitable U-shaped locking clips 14.

The inner housing 6 is provided at the front and back on either side with narrow pivot slots 36, said slots extending inwardly a slight distance. These slots alternate front and back successively to provide alternate shutter pivots at the front and the back of housing 6. Within the inner housing and extending the entire length thereof, are shutters 37 arranged in pairs, the shutters of each pair when in normal position being closer together than are the pairs of shutters. The bottom sides of these shutters are highly polished, while the top sides are dull. A small pivot ear 38 extends from each side of the shutters through the spaced slots 36 and the shutters are alternately pivoted in front and back. The bottom shutters and the alternate shutters above it are joined together by a connecting rod 39 having a hook 40 at the top end thereof. The hook passes through a spaced opening in the top shutter, while the three remaining associated shutters are connected to the rod 39 by means of specially designed slots 43. The top shutter and the alternate lower shutters are similarly connected by the rod 42. It will thus be seen that of the shutters in each pair, one is pivoted at the front of housing 6 and has its movable side at the rear, while the other is pivoted at the back of housing 6 and has its movable side at the front of the housing. The shutters having their movable sides at the front are all operatively connected by rod 39, while the other alternate shutters are all operatively connected by rod 42. The slots 43 are formed in the reverse manner from the slots 41. The reasons for so forming the slots 43 will hereinafter appear. One side of each slot is provided with a clearance space, thus allowing motion, while preventing rattle. The lower ends of the rods 39, 42 are connected together by the rocker arm 44 which is pivotally connected to the bracket 45. The bracket 45 is secured to the inner housing 6. A magnet 46 is also secured to the inner housing while the

core thereof is attached to a downwardly projecting portion of the rocker arm 44. A coil spring 47 is secured at one end to the magnet core and at its other end to a post connected
5 with the inner housing.

To provide for the supplementary tilting of the main reflector the rocker arm 44 is provided with an extension 50 which is pivotally connected to an arm 51. The arm 51
10 is provided at its inner end with a slot 52 which engages over a pin 53 carried by bracket 54 secured to the lower side of the reflector 1. This provides a lost motion connection between the shutter operating
15 rocker arm 44 and the reflector 1 whereby the tilting of the rocker arm for slight adjustments of the auxiliary reflector shutters 37 will not affect the main reflector 1, but the extreme tilting of the shutters will also
20 tilt the main reflector to supplement the effect of the shutters. The straight ahead position of the reflector is indicated in Figure 2.

The operation of the headlight of the form just described, is as follows:

The bright lights being turned on and the shutters being in the straight line position, the rays of light emitted by the headlight will project straight ahead. This position
30 may be maintained until another vehicle approaches, whereupon the driver turns on the magnet switch and the magnet coils are energized. The core is thus drawn within the coils and the rocker arm 44 is thereby swung
35 about its axis. The movement of the rocker arm in turn causes the rods 39 and 42 to be moved in opposite direction. Four of the shutters will thereby be swung downwardly while the remaining alternate shutters will be
40 swung upwardly. Towards the end of the movement of the shutters the reflector 1 will be tilted slightly downward to assure complete deflection of the rays as the two cars approach. When in this position, the light
45 rays will strike the bottom side of all of the shutters and be deflected downwardly upon the ground. After the two vehicles have passed, the magnet switch is turned off by the operator, whereupon the coil spring 47
50 will return the shutters to the normal position as above described.

While the invention has been described as employing a magnet to operate the rocker arms, it should be understood that a manually operated rod extending to the dash
55

could also be used. Also it should be understood that the shutters could be made flat instead of oval, depending upon the character of light desired.

The following claims are appended herewith, it being distinctly understood that the invention is susceptible of as many modifications and variations as fall within the scope of the said claims.

What I claim is:

1. In a headlight means for deflecting the light rays comprising a plurality of shutters arranged in pairs, the shutters of each pair spaced more closely together than are the pairs to each other.

2. The structure specified in claim 1 with one shutter of each pair pivoted on its front edge and the other pivoted on its rear edge, means connecting the front edges of those shutters pivoted at their rear edges, means
75 connecting the rear edges of those alternate shutters pivoted at their front edges and means concurrently operating said connecting means in opposite directions whereby alternate shutters are tilted on their back
80 edge pivots downwardly and the other alternate shutters are tilted on their front edge pivots upwardly.

3. In a headlight a main reflector and an auxiliary reflector and operative means connecting the main reflector and the auxiliary reflector including a lost motion device whereby the tilting of the auxiliary reflector will be followed successively by the tilting of the main reflector.

4. In a headlight having a main reflector and a plurality of auxiliary reflector shutters, means for tilting the auxiliary reflector shutters to deflect the light downwardly and means connecting the shutter operating
95 means with the main reflector including a lost motion device whereby the tilting of the shutters beyond a predetermined amount will operate to tilt the main reflector.

5. In a headlight a plurality of adjustable
100 reflectors, means for adjusting one of the reflectors and means connecting said adjusting means with the other reflector including a lost motion device whereby the adjustment
105 of one reflector beyond a predetermined amount will operate to adjust the other reflector.

In testimony whereof I affix my signature.

FITZ EDWARD PARKLER.