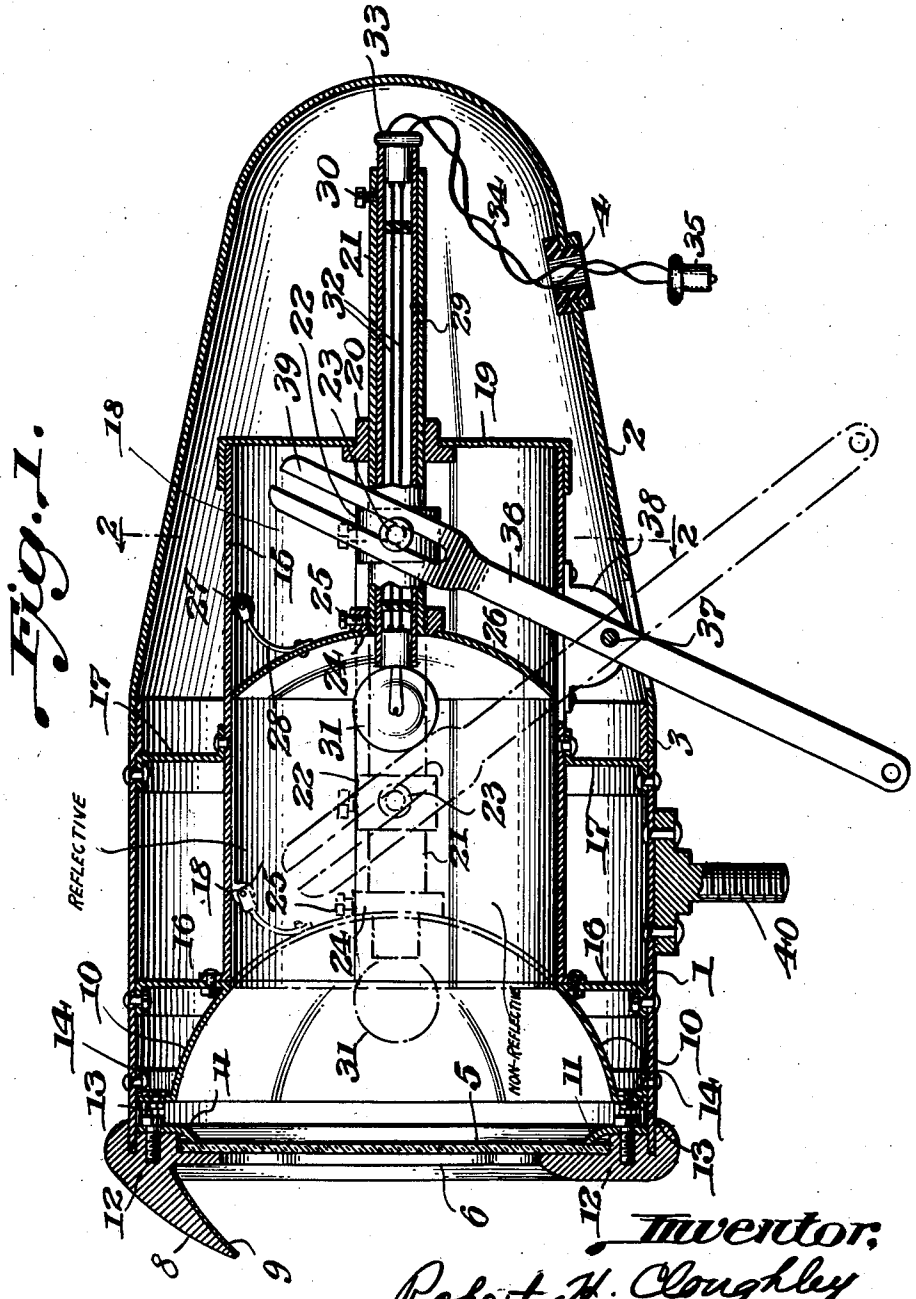
Sept. 20, 1927. 1,642,919

R. H. CLOUGHLEY

CONTROLLED HEADLIGHT

Filed May 17, 1926 2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

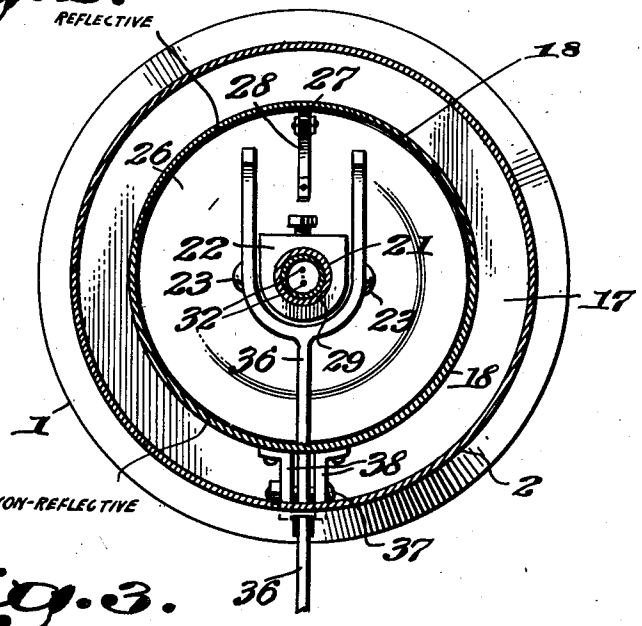
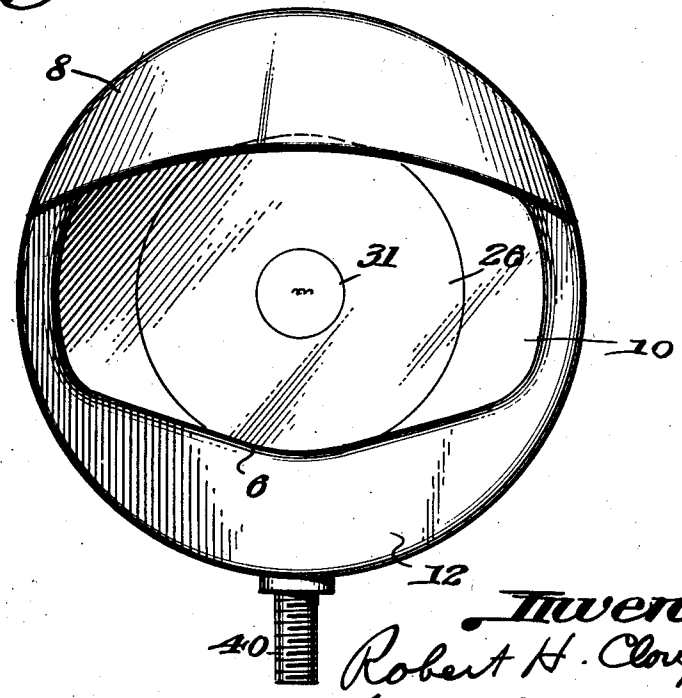


Fig. 3.



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Patented Sept. 20, 1927. 1,642,919

UNITED STATES PATENT OFFICE.

ROBERT H. CLOUGHLEY, OF KANSAS CITY, MISSOURI.

CONTROLLED HEADLIGHT.

Application filed May 17, 1926. Serial No. 109,715.

This invention relates to a headlight for an automobile, the object being to provide improvements whereby the lamp or electric bulb and its reflector may be shifted to different positions for use independently of, or in connection with, a supplemental reflector, whereby a bright but not glaring light may be projected for city driving, or, a bright but more widely spread or diffused light may be obtained for driving in the country or in places where a greater spread of the illumination is necessary.

With this object in view, and others which will appear hereinafter, I provide an improved construction embodying a bodily shiftable bulb and reflector which may be moved forwardly or rearwardly within a tubular shell to different positions under any suitable control convenient to the driver of the car, and a supplemental reflector which is not used when the bulb and the main reflector are retracted, but which is arranged to constitute a continuation of the main reflector when the lamp and the main reflector are advanced to bring the main reflector into position where it will form the central part or bowl for the complete reflector which will then be made up of the main and supplemental reflectors. By this arrangement when the main reflector and its bulb are in retracted position they are contained within the tubular casing and the rays of light are directed straight ahead and slightly downwardly, thus adapting the headlight for use in city driving. The invention also comprehends the provision of a reflector in the upper part of the tubular casing, and a combined shock-absorber and retainer carried with the movable reflector which bears on the inner surface of the tubular shell. The driver is thus enabled to use bright lights in city driving and keep within regulations which are in force in many cities and yet display no glare to those approaching from the opposite direction.

On the other hand, in country driving or on roads in sparsely settled localities, the bulb and its headlight are shifted forwardly to bring the reflector into position where it will constitute a continuation of a supplemental, stationary, reflector to form a complete parabolic reflector which will not only throw the rays directly ahead but will spread them so that the illumination will be of a greater width and yet, by reason of the provision of the improved lens ring, no glare will result.

My invention completely eliminates the necessity for dimming which is dangerous because of the defective illumination that results.

Provision is made whereby the bulb may be focused in its carrier and all necessary adjustments obtained.

The headlights may be operated or controlled in any suitable manner and I do not limit myself to any particular controlling means but it will be advantageous to provide a control which will lead to some point convenient to the driver of the car as, for instance, on the dash or instrument board, or on the steering column so that the driver may instantly shift the bulbs and their reflectors either forwardly or rearwardly according to requirements.

In the accompanying drawings:

Figure 1 is a longitudinal section, certain parts being in full lines,

Figure 2 is a cross section on line 2—2 of Figure 1, and

Figure 3 is a front elevation.

The headlight has an end closing metal shell which may conveniently consist of a front section 1 and a rear section 2, the front section being cylindrical and the rear section tapering for the purpose of better appearance. The two sections are suitably connected together at 3. A special bushing 4 is provided to admit the single or double wire used, according to the type of ignition system employed on the car.

The lens appears at 5 and is carried by a metal lens ring 6 which has a front of the appearance shown in Fig. 3. That is to say, instead of a circular opening, the lens ring 6 has a more or less elongated horizontally arranged opening 7 so that the upper and lower groups of rays of light are prevented from spreading upwardly and downwardly to cause glare. In addition to this feature, the upper part of the lens ring is in the shape of a hood or visor as shown at 8, the undersurface of which is plated as at 9 to act as a light reflector to throw the upper rays of light downwardly. The hood or reflector prevents glare at the top of the light and it prevents glare from the supplemental reflector 10 which will be described presently.

The lens 5 is secured to the ring by an in-

ner clamping ring 11, screws 12 being used to hold said ring 11 to the lens ring 6.

The lens ring 6 is secured to the cylindrical front part of the shell 1 in any desired manner.

The reflector 10 is in the shape of a ring forming a section of a parabola and it is secured by any suitable fastening 13 to a flange 14 which is fastened to the inside of the shell 1.

Contained within the shell 1 is a cylindrical inner shell 15 which may be supported in any suitable manner as, for instance, by brackets or hangers 16, 17 and this inner shell is coated black on its interior and preferably is provided in its upper part with an arc shaped reflector 18. The internal diameter of the inner shell 15 is the same as the distance across the open inner end of the reflector 10.

The rear of the shell 15 is closed by a head or cap 19 which has a central guide or bushing 20. Slidably mounted in the guide or bushing 20 is a tubular carrier 21 which has an adjustable collar 22 held by a suitable set screw and provided with trunnions 23 projecting from opposite sides thereof. Screwed on the inner end of the tubular carrier 21 is a collar 24 which is held in position by a set screw 25. Riveted, soldered, or otherwise suitably connected to the collar 24 is a concave reflector 26 whose periphery is slidably mounted on the wall of the shell 15 and on the arc shaped reflector 18. A wheel or roller 27 carried by a spring 28 secured to the reflector 26, is adapted to travel on the reflector 18 and serves to hold the reflector 26 where set in the shell 15 and also to absorb vibration and jar to which the lamp is subject when the car is in motion.

Contained within the tubular carrier 21 is a lamp carrying tube 29 which is held by a set screw 30 wherever said tube may be located. The lamp 31 screws into the inner end of the tube 29 in any approved fashion. By sliding the tube 29 within the carrier 21, the lamp 31 can be focused as may be desired and the set screw 30 is then clamped against the tube 29. I have illustrated the invention as adapted for use in connection with an ignition system of the two-wire type where the bulb has a double contact, the wires inside of the tube 29 appearing at 32 but it will be understood that the invention can be used on single wire ignition systems. The plug 33 which connects the wires 32 to the lighting system, screws into the rear end of the tube 29 and the wires 34 are led out through the bushed fitting 4 and the plug 35 is plugged into the lighting system.

The tube 29 is shifted bodily with the carrier 21 by the use of any suitable means under the control of the driver of the car, operating devices being provided on the instrument board or the steering column, by preference, but such connections are not shown as they do not enter into the construction of the lamp. Provision will be made so that both of the headlights will be operated equally and simultaneously. A convenient means for shifting the carriers 21 and with them the reflectors 26 and the bulbs 31 of the two headlights, may comprise levers, of which one is shown at 36, said lever being pivoted at 37 to a bracket 38 on the shell 15 and extending down through a slot in the rear part 2 of the outer shell. The lever has a slot or yoke 39 which receives trunnions 23. When the lever is operated the lamp and its reflector will be moved forwardly or rearwardly according to circumstances.

The entire lamp is mounted on the car by a screw threaded stud 40 riveted to the bottom of the section 1 of the shell or casing, said stud passing through a suitable bracket on the car and being held by a nut.

My invention enables a bright light to be used at all times without possibility of glare and yet, when it is desired to have a more widely spread or diffused light of brilliance, the shifting of the carrier 21 forwardly will bring the reflector 26 into a position where it will constitute the bowl of a reflector of parabolic shape consisting of the reflectors 10 and 26. When driving in the city, the reflector 26 and the lamp may be in retracted position whereupon the rays of light will be thrown directly ahead and somewhat downwardly and yet will not be spread.

Having thus described my invention, I claim:

1. In a controlled headlight, the combination with a tubular shell, of a bowl shaped reflector and a source of illumination mounted to slide within said shell so as to be adapted to be shifted forwardly or rearwardly within the shell, means for absorbing jars and shocks communicated to said reflector and source of illumination, a ring shaped reflector which is open in its central part, said ring shaped reflector being arranged in relation to said bowl shaped reflector so that the bowl shaped reflector may be disposed to complete the open central part of the ring shaped reflector, thereby permitting both reflectors to be used in connection with the same source of illumination, and means bodily movable with the source of illumination for focusing said source of illumination in relation to the bowl shaped reflector.

2. In a controlled headlight, the combination with a tubular shell or casing having an internal reflecting surface forming a part thereof, of a reflector and source of illumination mounted for bodily sliding movement as a unit within said shell or casing, and a spring actuated retainer and vibration absorber carried as a unit with the movable reflector and source of illumination, said re-

tainer and vibration absorber bearing on the interior wall of the shell.

3. In a controlled headlight, the combination with a tubular shell or casing having a reflecting surface in its upper part but otherwise provided with a non-reflecting interior surface, of a reflector and source of illumination mounted for bodily sliding movement as a unit within said shell or casing, said reflector approximating in size the interior size of said shell or casing, and a spring actuated cushioning roller carried with the reflector and source of illumination, said roller bearing on the interior wall of the shell to hold the reflector and source of illumination where set in the shell or casing and to absorb vibration.

4. In a controlled headlight, the combination with a shell or casing having a guide, of a carrier slidable in said guide, a reflector carried by said carrier and slidable within the shell or casing, a lamp carried by the carrier, a collar having trunnions and carried by said carrier, and a pivoted lever having slots receiving said trunnions, said lever being adapted for use to shift the carrier, reflector, and lamp as a unit within the shell or casing.

In testimony whereof I affix my signature.

ROBERT H. CLOUGHLEY.