No. 763,272. PATENTED JUNE 21, 1904.

G. C. FISH & W. F. RAINEY.

HEADLIGHT FOR LOCOMOTIVES OR STREET CARS.

APPLICATION FILED OCT. 19, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

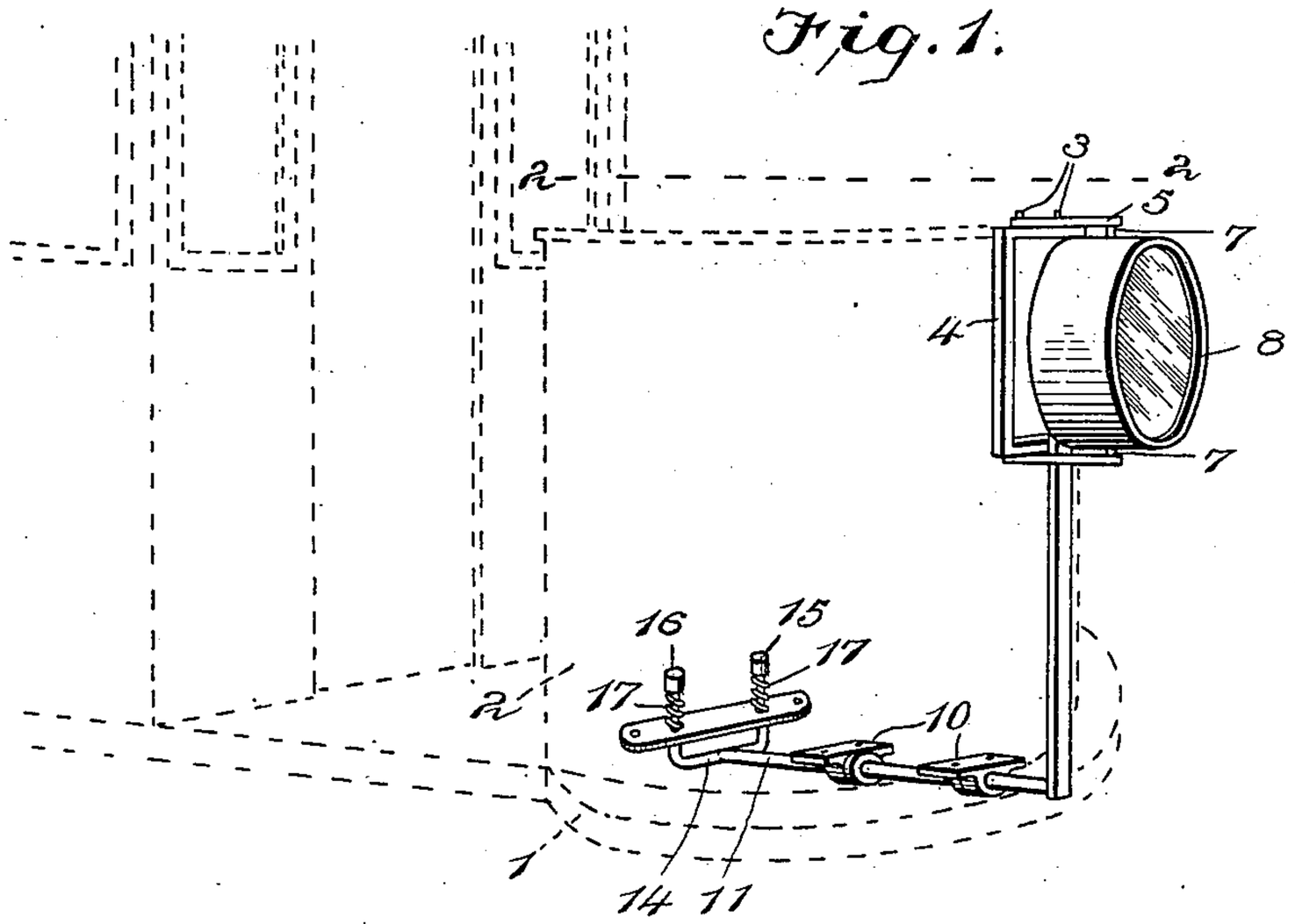


Fig. 2.

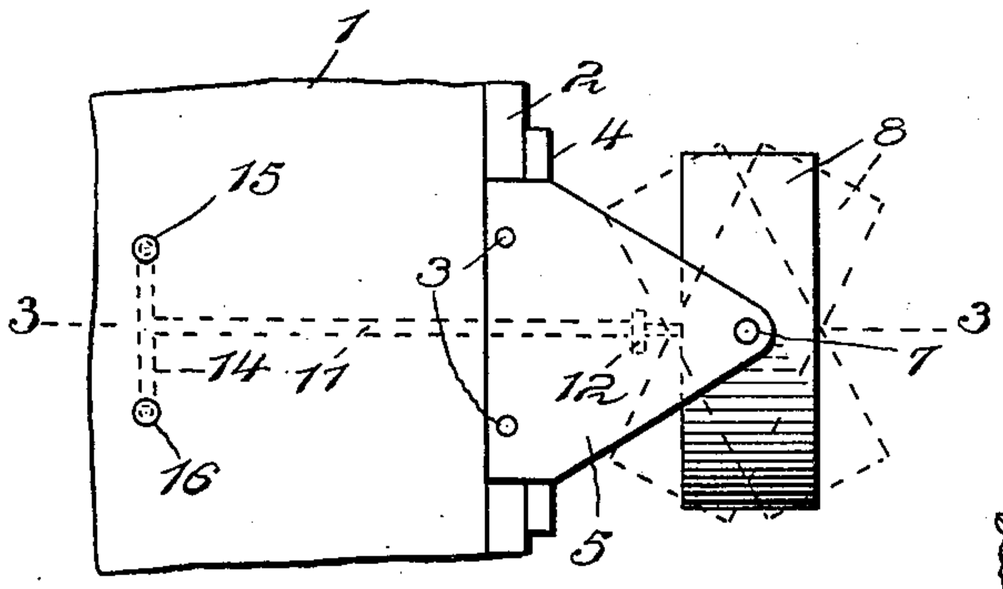
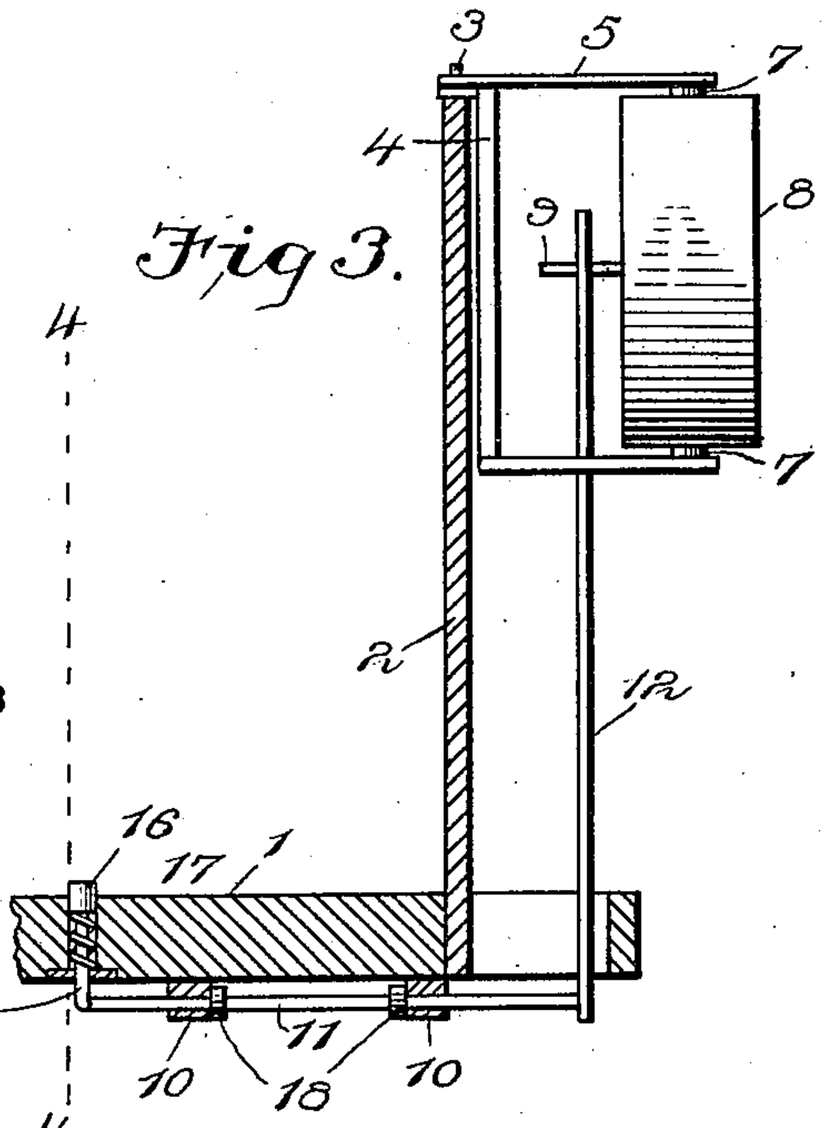


Fig 3.



Witnesses

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George C. Fish

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their Attorney

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

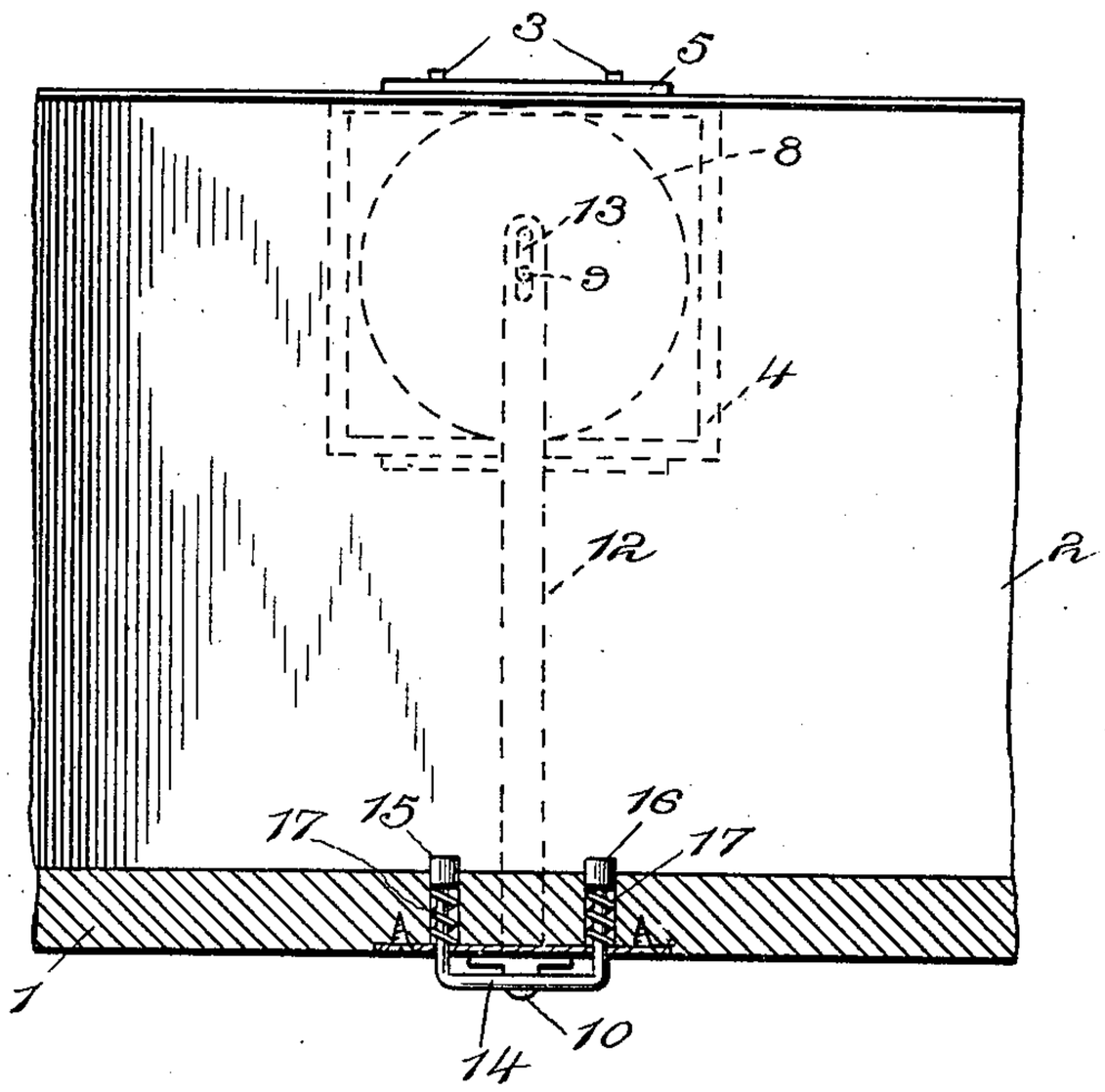


Fig. 5.

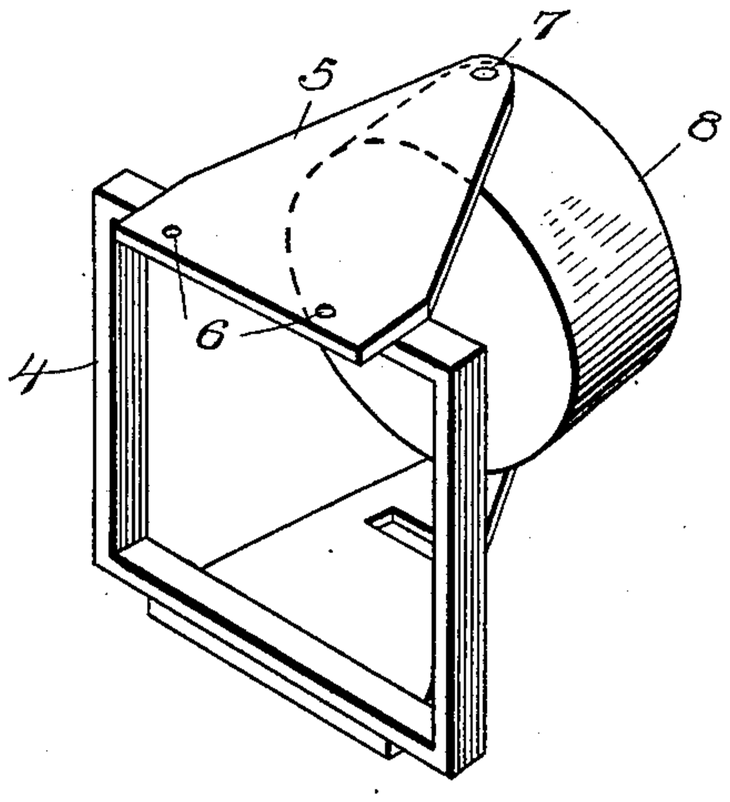
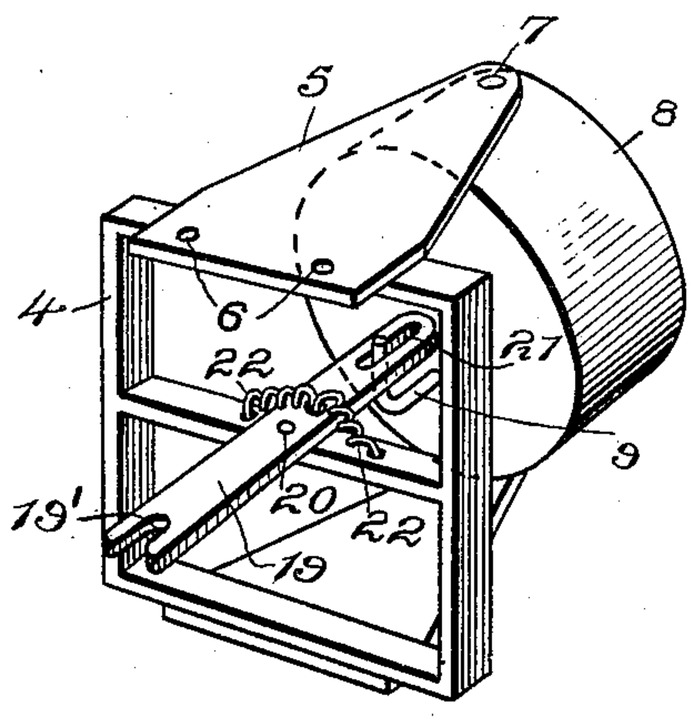


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE C. FISH AND WILLIAM F. RAINEY, OF PITTSFIELD, MASSACHUSETTS.

HEADLIGHT FOR LOCOMOTIVES OR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 763,272, dated June 21, 1904.

Application filed October 19, 1903. Serial No. 177,546. (No model.)

To all whom it may concern:

Be it known that we, GEORGE C. FISH and WILLIAM F. RAINEY, citizens of the United States, residing at Pittsfield, county of Berkshire, and State of Massachusetts, have invented certain new and useful Improvements in Headlights for Locomotives or Street-Cars, of which the following is a specification.

Our invention relates to headlights for locomotives and street-cars.

Heretofore it has been proposed to provide headlights for locomotives and street-cars which can be adjusted or swung to throw the light at an angle when the locomotive or car is rounding a curve, so that the light will always be on the track; but these inventions have generally been arranged to work automatically from the car-truck, and they have not been arranged so that the headlight in the case of a street-car could be taken off one end of the car and placed on the other end for the return run, so that headlights for both ends of the car in the case of street-cars were necessary. Such headlights as have employed means for turning the headlight by the engineer or motorman have been arranged to be turned by hand, which necessitates the motorman or engineer removing his hand from the brake or power mechanism of the locomotive or car in order to operate the headlight.

The object of our invention is the provision of an improved adjustable headlight adapted to be swung so that the light can be thrown on the track when the car or locomotive is rounding a curve, which can be removed from one end of the car and placed on the other end, or taken from one car or locomotive and placed on another at will.

A further object is to provide for the operation or swinging of the headlight by the foot or leg of the motorman, so that his hands are free at all times to operate the brake and power mechanism of the car.

With the foregoing objects in view the invention consists of certain improved features of construction and novel combinations of parts set forth in detail hereinafter and recited in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of an end of an electric car shown in dotted lines with our invention applied thereto, which is shown in full lines; Fig. 2, a plan view on the line 2 2 of Fig. 1; Fig. 3, an elevation with parts of the car dash and platform in section, taken on the line 3 3 of Fig. 2; Fig. 4, a section taken on line 4 4 of Fig. 3; Fig. 5, a detail of the headlight and frame; and Fig. 6, a view showing the invention as adapted to be operated by a lever extending through the dash.

The invention in the present instance is shown and described as applied to an electric street-car having the platform 1 and dash 2. On the dash dowels or pins 3 are provided.

The headlight has a frame 4 provided with a flange 5 at its upper portion, which has openings 6 to receive the dowels or pins 3, whereby the headlight is detachably hung on the front of the dash, so that it can be quickly removed and placed on another car or on the other end of the same car, if desired.

Pivoted at 7 to the upper and lower forwardly-extending portions of the frame 4 is the headlight 8, which may be of any preferred make, the pivoting permitting the headlight to swing toward the left or right, as shown in dotted lines in Fig. 2.

Projecting from the back of the headlight is a pin 9. Journaled in suitable hangers or brackets 10 on the bottom of the car-platform 1 is a rock-shaft 11, having secured thereto an upright rod or frame 12, provided with a slot 13, which receives the pin 9. The rock-shaft 11 extends rearwardly and is provided at a convenient point with a U-shaped operating member 14, having two pins 15 and 16, which project up through openings in the car-platform in suitable position to be conveniently manipulated by the foot of the motorman. Surrounding the pins 15 and 16 are coil-springs 17, which keep the operating member 7 balanced and the headlight 8 normally pointing directly forward. A suitable collar 18 is provided on a rock-shaft 11 to prevent the latter from sliding in its hangers.

When the car reaches a curve, the motorman presses upon one or the other of the pins 15 or 16, which thereupon turns the rock

shaft 11 and swings the rod 12 toward the right or left transversely of the car, thereby turning the headlight on its pivots and directing the light on the track. As soon as the pressure on the pin is released the headlight automatically swings back to normal position by the action of the springs 17. By pressing pin 15 the headlight is swung in one direction, and by pressing pin 16 it is swung in the opposite direction. The motorman's hands are free to control the brake and power mechanism.

It is sometimes desirable to use a hand or leg operated headlight, and in this case the invention may conveniently assume the form shown in Fig. 6. In this modification the member 9 is made in the shape of a hook, and a lever 19 is pivoted to the frame 4 at 20 and provided with a slot 21, receiving the member 9. The free end of the lever projects through a slot in the dash in a convenient position to be manipulated by the motorman by using the hand or by his leg when pressed into the notched end 19′. Springs 22 keep the headlight normally pointing directly forward.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a car, of an upright frame, a detachable connection between the frame and the car holding the frame stationary on the car, a headlight pivotally connected to the frame to swing laterally in relation thereto, said frame and headlight being removable together from the car, a manually-operable lever, independent of the detachable connection of the frame with the car, coöperating with the headlight to swing said headlight laterally, and means for keeping the headlight normally pointing forward.

2. The combination with a car, of an upright frame, a detachable connection between the frame and the car, holding the frame stationary on the car, comprising a fixed pin on the car and an opening in the frame which loosely receives the pin, a headlight pivotally connected to the frame to swing laterally in relation thereto, said frame and headlight being removable together from the car, a manually-operable lever, independent of the detachable connection of the frame with the car, coöperating with the headlight to swing the said headlight laterally, and means for keeping the headlight normally pointing forward.

3. The combination with a car, of a headlight comprising a stationary frame detachably connected to the car, a headlight swingingly carried by the frame and removable with the frame from the car, a manually-operable lever on the car for operating the swinging headlight comprising a pivoted lever having a slot, and a member on the headlight which is slidably engaged in said slot and detachable therefrom when the frame and headlight are removed from the car.

4. In a swinging headlight, the combination with a frame, of a headlight swingingly connected to the frame, a rock-shaft operably connected to the headlight to swing it, and independent manually-operable members one for rocking said rock-shaft in one direction and the other for rocking the shaft in the opposite direction.

5. The combination with a swinging headlight, of a rock-shaft, a lever connected to the rock-shaft and adapted to swing the headlight, independent manually-operable members for rocking the rock-shaft in opposite directions, and springs coöperating with said members for holding said members in normal position to keep the headlight normally pointed in a given direction.

6. The combination with a car, of a stationary frame detachably connected to the car, a headlight swingingly connected to the frame, a rock-shaft on the car, a lever connected to the rock-shaft and having a detachable connection with the headlight for swinging said headlight, pins connected to the rock-shaft and extending through the floor of the car for operation by the foot, one of which rocks the rock-shaft in one direction and the other being adapted to rock the rock-shaft in the other direction, and coil-springs surrounding said pins adapted to maintain the headlight normally pointing in a given direction.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

GEORGE C. FISH.
WILLIAM F. RAINEY.

Witnesses:
WILLIAM L. ADAM,
ELIOT A. CLARK.