R. M. DOOLEY.

HEADLIGHT.

APPLICATION FILED JAN. 27, 1910.

1,007,435. Patented Oct. 31, 1911.

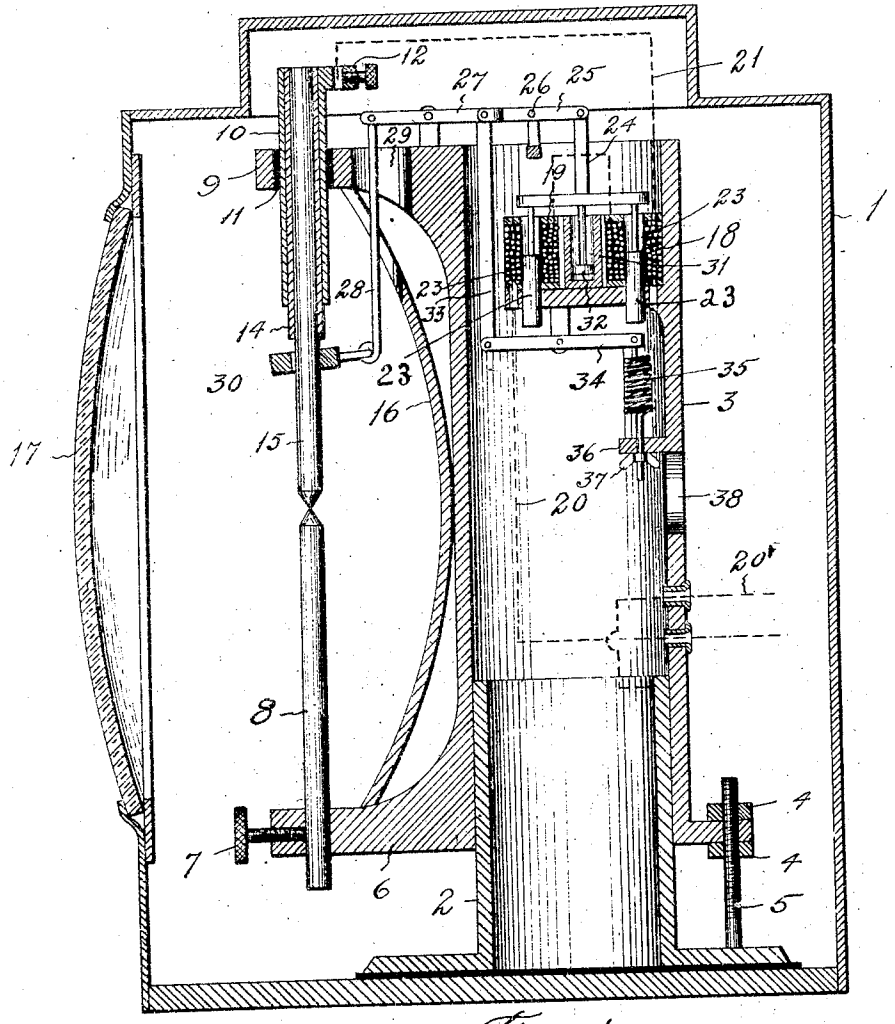

Fig. 1.

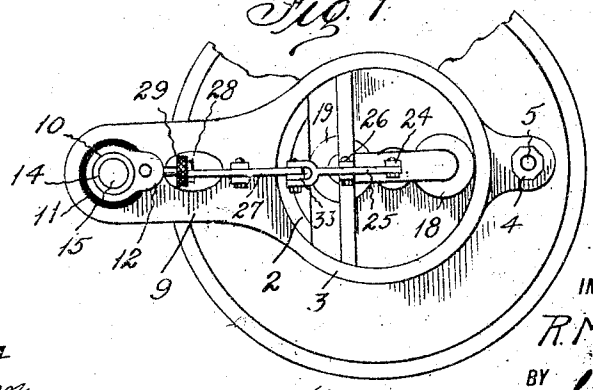

Fig. 2.

WITNESSES.

J. L. Bowling

A. E. Vanthorn

INVENTOR

R. M. Dooley.

BY Ashley & Davis

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT M. DOOLEY, OF ROCKLAND, TEXAS.

HEADLIGHT.

1,007,435. Specification of Letters Patent. Patented Oct. 31, 1911.

Application filed January 27, 1910. Serial No. 540,310.

To all whom it may concern:

Be it known that I. ROBERT M. DOOLEY, citizen of the United States, residing at Rockland, in the county of Tyler and State of Texas, have invented certain new and useful Improvements in Headlights, of which the following is a specification.

My invention relates to new and useful improvements to head-lights and more particularly to electric head-lights.

The object of my invention is to provide an electric head-light which will adjust the carbons of the arc lamp without the usual vibration.

Another object of my invention is to provide an adjustable stand for an arc light which will allow the same to be properly focused in a head-light.

Finally the object of my invention is to provide a device of the character described which will be simple, strong, durable and efficient, and one in which the several parts will not be likely to get out of working order.

With these and other objects in view, my invention has relation to certain novel features of construction and operation, an example of which is described in the following specification and illustrated in the accompanying drawings, wherein:

Figure 1. is a vertical section of my device, and Fig. 2. is a plan view of the arc lamp.

In the drawings the numeral 1 designates a suitable housing, and numeral 2 designates a central stand on which a tubular supporting member 3 is mounted to slide up or down. This movement is regulated by nuts 4 arranged to turn on a bolt 5 mounted on the base of the stand 1. The tubular member carries an arm 6 near its lower extremity which is provided with a set screw 7 adapted to engage with a carbon 8. At the top of the tubular member an arm 9 extends over the arm 6 and carries a vertical sleeve 10 which is insulated therefrom by a non-conducting collar 11.

A suitable binding post 12 is arranged on the sleeve while another sleeve 14 is arranged to slide in the first named sleeve and to engage with a carbon 15. Normally the carbons 8 and 15 contact at a point directly opposite the center of the reflector 16 and the lens 17.

Solenoids 18 and 19 are mounted within the tubular member and have electrical connection with the lead wire 20 and are connected up in circuit with the upper carbon 15 by the conductor 21, which is secured to the binding post 12 of the sleeve heretofore described. The frame of the lamp is connected to the lead wire 20′ below the lead 20, the lower carbon being in circuit therewith through the carrying arm 6. These solenoids are so positioned that upon being energized, the cores 23 thereof will be moved upwardly raising the arm 24 and one end of the lever 25, which latter is pivoted at 26. The other end of the lever 25 engages with one end of a lever 27 pivotally mounted on the tubular member. The other end of the lever 27 engages with a link 28 which extends downward through an aperture 29 in the arm 9 and connects to a ring 30. The ring engages the carbon on its upward movement but will slide down without engaging with the carbon.

Between the solenoids 18 and 19 a dash-pot 31 is mounted to receive a piston 32 connected in alinement with the arm 24. A lever 33 extends downward from the end of the lever 25 and connects with one end of a lever 34 which is pivoted below the support of the magnets.

A spring 35 having connection with the other end of the lever 34 extends downward and has connection with a lug 36 made on the interior of the tubular member and is made adjustable by a nut 37. This nut may be reached by the operator through an aperture 38 in the tubular member.

When the carbons are close together the resistance is at a minimum and the solenoid coils will be energized enough to raise the electrode 15 against the tension of the spring 35. As the electrode is raised the resistance is increased and energy exerted by the solenoids is decreased until it is neutralized by the tension of the spring. When the electrodes are further separated by reason of their being burned away the spring will overcome the action of the solenoids and then the dash pot and the electrode will be returned to its normal position.

It is obvious that an arc lamp so constructed can be installed in places where the space is very limited and that the mechanism being inside of the stand will be protected and will not be liable to get out of adjustment. All the levers used in the mechanism being short and the mechanism being compact decreases the liability of the

electrodes being affected by vibration should the lamp be used as a headlight on a moving vehicle.

What I claim is:

1. In an electric headlight, the combination with a base, of a tubular stand supported on the base, means for raising or lowering the stand with relation to the base, an arm arranged near the lower extremity of the stand adapted to support an electrode, a second arm arranged at the upper extremity of the stand, a sleeve fixed in the last named arm and insulated therefrom, a second sleeve arranged to slide in the first named sleeve and to support an electrode, a ring clutch adapted to surround the last named electrode, a lever pivoted on the stand, a link connecting one end of said lever with the ring clutch, two opposite vertical solenoids supported within the stand, cores arranged to operate in the solenoids and adapted to have upward movement upon the energizing of said solenoids, a second lever pivoted upon said stand between and pivotally connected to the free end of said first named lever and said cores, a horizontal lever pivoted beneath said solenoids, a vertical link extending parallel to the solenoids and pivoted to the pivotal point of connection between the first named levers and the inner end of said horizontal lever, a spring concealed within the stand and secured to the free outer end of the horizontal lever, and means for adjusting the tension of said spring.

2. In an electric headlight, the combination with a base, of a tubular stand supported on the base, means for raising or lowering the stand with relation to the base, an arm arranged near the lower extremity of the stand adapted to support an electrode, a second arm arranged at the upper extremity of the stand, a sleeve fixed in the last named arm and insulated therefrom, a second sleeve arranged to slide in the first named sleeve and to support an electrode, a ring clutch adapted to surround the last named electrode, a lever pivoted on the stand, a link connecting one end of said lever with the ring clutch, two opposite vertical solenoids supported within the stand, cores arranged to operate in the solenoids and adapted to have upward movement upon the energizing of said solenoids, a second lever pivoted upon said stand between and pivotally connected to the free end of said first named lever and said cores, a horizontal lever pivoted beneath said solenoids, a vertical link extending parallel to the solenoids and pivoted to the pivotal point of connection between the first named levers and the inner end of said horizontal lever, a spring concealed within the stand and secured to the free outer end of the horizontal lever, means for adjusting the tension of said spring, a dash pot positioned between said solenoids and operatively connected with said second named lever, said solenoid cores being adapted for upward movement upon the energizing of said solenoids, and said solenoids, electrodes and arms adapted for the passing of an electrode circuit therethrough.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT M. DOOLEY.

Witnesses:
J. F. CARTER,
N. H. CARTER.