

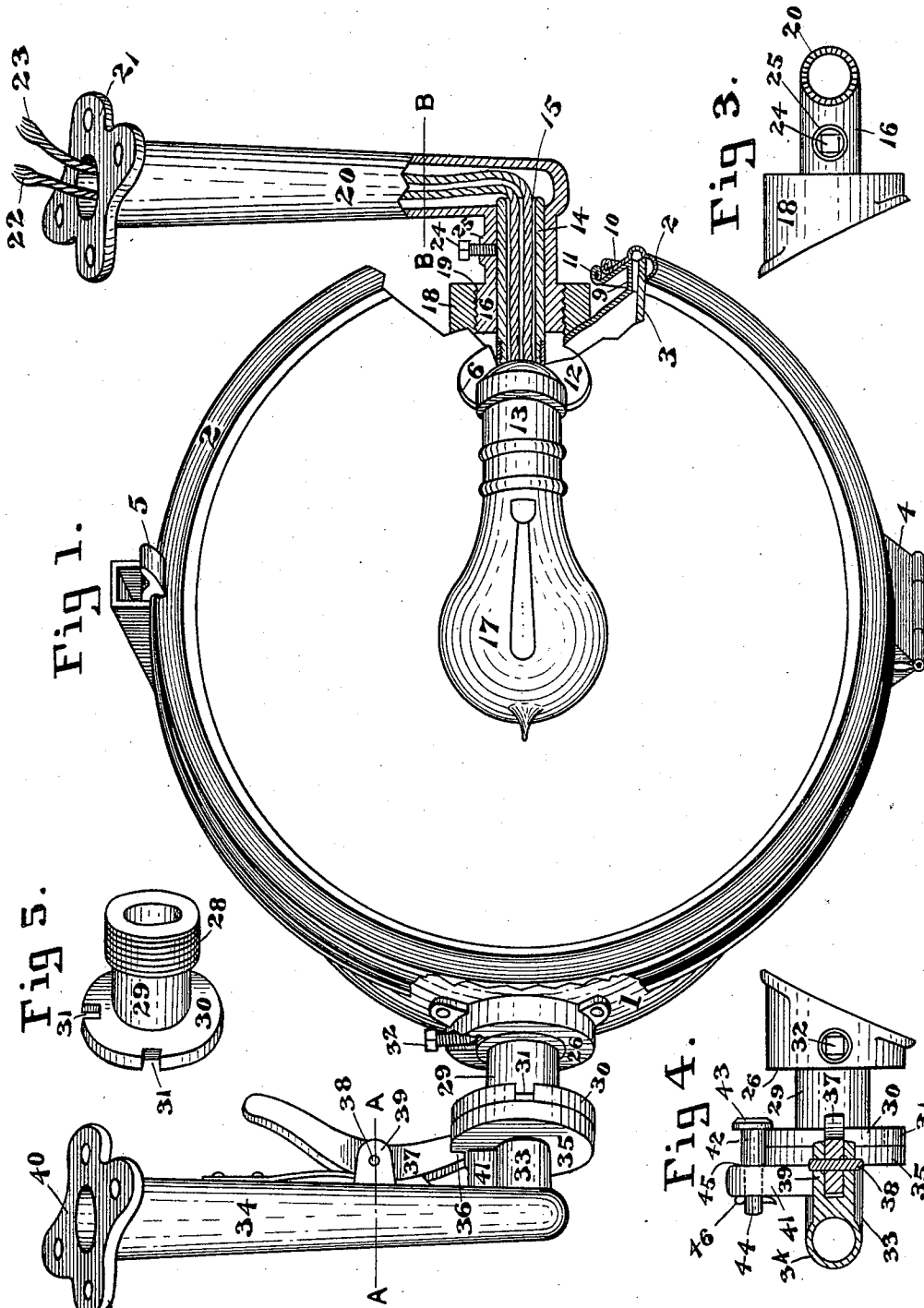
(No Model.)

2 Sheets—Sheet 1.

J. KIRBY, Jr.
REVOLVING ELECTRIC HEADLIGHT.

No. 581,465.

Patented Apr. 27, 1897.



Attest:
G. B. Lehman
H. G. Mitchell

Inventor.
John Kirby, Jr.

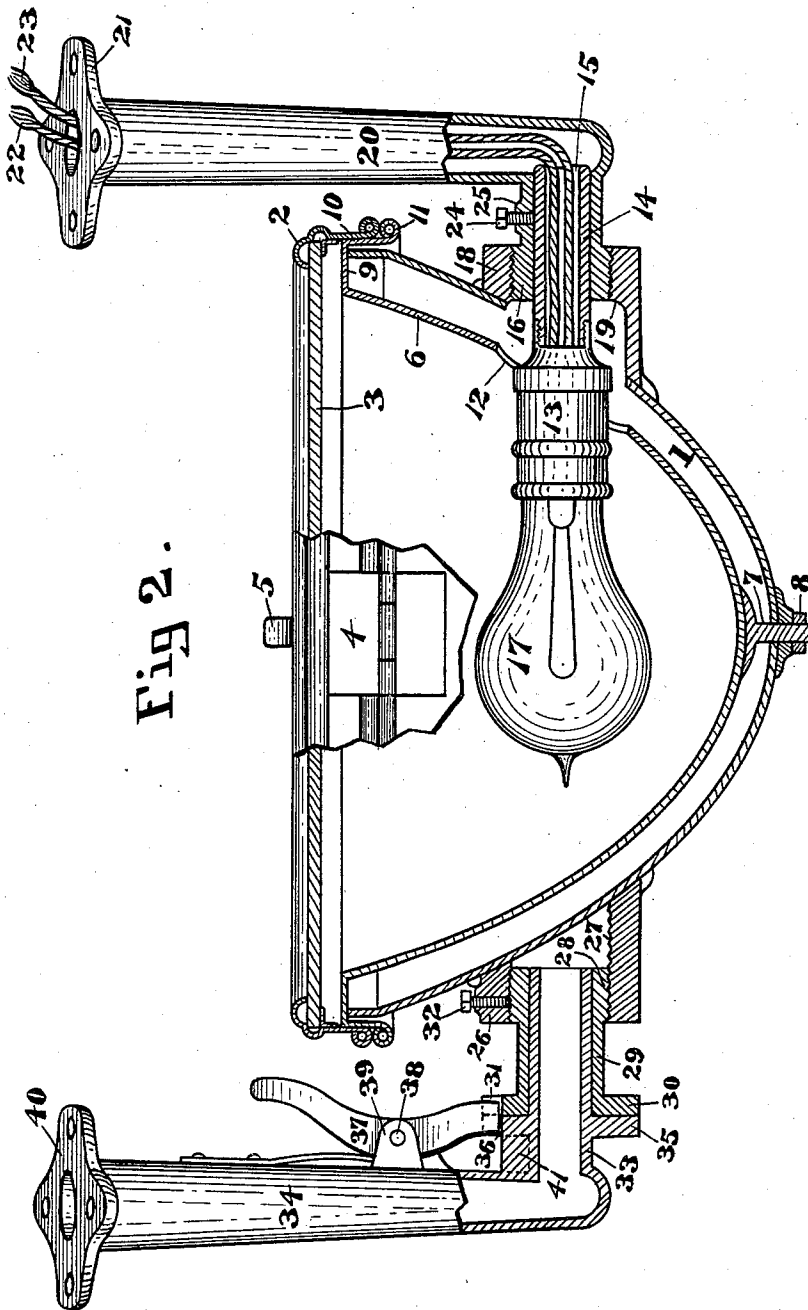
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UNITED STATES PATENT OFFICE.

JOHN KIRBY, JR., OF DAYTON, OHIO, ASSIGNOR TO THE UNITED STATES
HEAD-LIGHT COMPANY, OF UTICA, NEW YORK.

REVOLVING ELECTRIC HEADLIGHT.

SPECIFICATION forming part of Letters Patent No. 581,465, dated April 27, 1897.

Application filed February 2, 1897. Serial No. 621,604. (No model.)

To all whom it may concern:

Be it known that I, JOHN KIRBY, Jr., a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Revolving Electric Headlights; and I do hereby declare that the following is a full, clear, and exact description of the invention.

My invention relates to revolving electric headlights, particularly such as are adapted to be attached to the under side of the hoods of street-cars and which may be used to throw light on the track ahead of the car when it is going in one direction and down on the platform when the car is going in an opposite direction and in the daytime when no light from the headlight is required can be turned with its face upward, in which position it is protected by the hood of the car against damage through breakage of the glass and otherwise. It objects are to improve the construction of such headlights, whereby they will revolve freely on their bearings and yet be sufficiently rigid when in their fixed position; to reduce the number of parts constituting such headlights; to construct them in a more compact and slightly manner than heretofore; to provide them with socket-holders which can be moved forward and backward within one of the journals upon which the headlight revolves; to provide an efficient and easily-manipulated fastening whereby the headlight is held firmly in either of several fixed positions, and to otherwise so construct such headlights as to make them more desirable, efficient, and useful, as hereinafter more fully described in the following specification, pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a broken perspective view of the complete headlight, showing one of its journals and a portion of its accompanying hanger together with its socket-holder in section and showing the connecting-wires leading to the socket; Fig. 2, a cross-section through the center of the headlight and its supporting-hangers; Fig. 3, a detached top view of the journal-bearing and the journal which carries the socket-holder, taken through line B B of Fig. 1; Fig. 4, a similar view to Fig. 3,

taken through line A A of Fig. 1; and Fig. 5, a perspective view of the sleeve which revolves on the journal at the left-hand side in Figs. 1 and 2.

Similar reference-numerals indicate corresponding parts in the drawings.

1 is a case having a door 2 with a central opening for the passage of light and adapted to carry a glass 3, through which the light is transmitted. The door is preferably hinged at 4 to the case and is held closed by a catch 5. A parabolic reflector 6 is mounted within the case and secured thereto by means of a screw-threaded stem 7, attached to the apex of the reflector and passing through the back of the case, engaging a nut 8, by which means the reflector and case are held firmly together. The reflector is provided with an annular flange 9, terminating in a backwardly-turned flange 10, having a beaded edge 11, against which the door closes. An opening 12 is cut through the reflector for passage of a lamp-socket 13, attached to a socket-holder 14, having a central bore 15 and movable within a hollow horizontal journal or arm 16. A lamp 17 is screwed or otherwise secured to the socket, and the parts above described constitute the principal features of the headlight proper.

To the case 1 is secured a bearing 18, screw-threaded at 19 to engage a corresponding screw-thread on the end of the hollow horizontal journal 16, the opposite end of which terminates in a vertical hollow supporting-hanger 20, having a base 21 for attachment to the car. Connecting-wires 22, 23 pass through the hanger 20 and socket-holder 14, and being connected with the socket 13 convey the electric current to the lamp in the usual manner. In connecting the wires 22, 23 a sufficient amount of slack may be provided to allow the socket-holder 14 to be moved forward and backward, whereby the lamp may be adjusted in proper relation to the focus of the reflector, thereby avoiding the necessity of using a lamp of a particular size in order to obtain proper results, and this feature of the invention will at once be recognized as an important one by those skilled in the art to which it pertains.

The socket-holder is secured in a desired

position by means of a set-screw 24, operating through the wall of the horizontal journal 16, having a boss 25 formed thereon to provide increased stock for the screw 24. To the
 5 opposite side of the case a housing 26 is secured, having an internal screw-thread 27, which engages a screw-thread 28, formed at one end of a hollow sleeve 29, having its opposite end provided with a flange 30, having
 10 notches or stops 31, any number of which may be employed, according to number of positions in which it may be desirable that the headlight should be fixable, in a manner presently to be described.

15 The function of screw-threads 27 and 28 is to permit the headlight, when mounted on the car, to be set with its face either on a vertical line or inclined, as may be desired, and when its position is determined the housing 26 and
 20 sleeve 29 may be caused to operate as a single piece by means of a set-screw 32, preferably pointed and operating through the wall of the housing and embedding itself against or into the thread 28 of the sleeve 29, thus
 25 preventing further movement between these parts, but leaving the sleeve 29 free to revolve on a horizontal journal or arm 33, terminating in a vertical supporting-hanger 34 and having a flange 35, provided with a notch
 30 36, which registers with a spring-operated lever or fastening device 37, pivoted at 38 to ears 39, projecting from the supporting-hanger 34, which is also provided with a base 40.

35 In operation the headlight is partially revoluble on the screw-threaded horizontal journal 16 and the opposite journal 33, its movement being governed by the notches 31, with which the spring-lever 37 engages, as more
 40 clearly shown in Fig. 2. I have shown only two of these notches in the drawings, one to hold the headlight in the position shown in Fig. 1 and one to hold it in the position shown in Fig. 2. It is to be understood, however,
 45 that other notches may be employed whereby the headlight may be held with its face downward, so as to throw light onto the platform of the car or rearwardly into the car through the glass in the end door or otherwise, as
 50 may be desired.

To prevent separation of the headlight from the journal 33 and hanger 34 when the structure is detached from the car-hood and to provide against undue lateral movement
 55 when it is attached thereto, I provide an arm or bracket 41, extending outwardly from the journal 33 and behind the flange 35, from the outer end of which arm and at right angles thereto a second arm 42, Fig. 4, projects over
 60 the edges of the flanges 30 and 35 and terminating at one end in an enlarged button-like head or flange 43, extending downwardly or inwardly over the inner side of the flange 30, the opposite end having a reduced portion
 65 44, forming a shoulder 45 and projecting through the arm 41, to which it is secured by a cotter-pin 46, as clearly shown in Fig. 4.

It will be observed that by the construction just described the button-like head or flange 43 prevents separation of the flanges 30 and 70 35, and that it, together with the arm 42, is free to turn with the flange 30 when the headlight is shifted from one position to another, and that friction is thereby reduced. The screw-threads of journal 16 and bearing 18 75 prevent undue lateral movement of these parts. It is recognized, however, that a slight lateral movement must be provided for to accommodate the pitch of the screw-threads of journal 16 and bearing 18, but as 80 they may be fine threads—I prefer to make them about eighteen to the inch—it is found in practice that there is sufficient spring in the structure for this provision, although it may be controlled by the length of the arm 85 42 or by loosely fitting the threads, as the headlight is only required to make about three-fourths of a revolution in either direction.

In the foregoing I have described what I 90 now consider to be the best manner of detail construction, but it is obvious that such details may be departed from and that some features of my invention may be used to the exclusion of others without departing from 95 the spirit thereof, particularly so with reference to the case, which may be dispensed with, and the door, hinged or otherwise attached to the reflector, and the bearings or trunnions by which the headlight is mounted 100 and on which it rotates may also be fixed to the reflector.

I am aware that it is not broadly new to construct headlights to revolve on journals, and therefore make no broad claim thereto. 105

What I do claim is—

1. In a revolving headlight, the combination of a screw-threaded bearing at one side thereof and a correspondingly screw-threaded journal fixed to a suitable support and on 110 which said bearing revolves, a non-screw-threaded bearing and a corresponding journal on which the same revolves at the opposite side thereof, the latter journal being likewise fixed to a suitable support and means 115 for controlling the movement of the headlight and securing it in either of several positions on said journals.

2. In a revolving headlight, the combination of a screw-threaded bearing at one side 120 thereof and a correspondingly screw-threaded hollow journal on which said bearing revolves and adapted to be secured to a suitable support, a lamp-socket holder movable within said hollow journal, a device for securing said holder within said hollow journal, 125 a bearing and a corresponding journal at the opposite side of the headlight, one of which is adapted to be fixed to a suitable support whereby the headlight is revoluble, or partially so, in said bearings and journals, and means for controlling the movement of and 130 securing the headlight in either of several positions.

3. A revolving headlight mounted between two supports, each of which is provided with arms extending at an angle thereto and around which the headlight is revoluble, one
5 of said arms being hollow, a lamp-socket, a lamp-socket holder movable within the hollow arm and through which current-conveying wires are led, for connection with said lamp-socket, a fastening for securing said holder
10 in place, bearings secured to the headlight at opposite sides thereof and by which the latter is mounted, means for preventing undue lateral motion of the headlight, stops for controlling its movement and a fastening device
15 for securing the headlight in either of several positions on its supports.

4. In a revolving headlight, a housing attached to one side thereof, a bearing movable therein, means for securing said housing and
20 said bearing together, in combination with suitable supports at opposite sides of and around which the headlight is revoluble, stops for controlling the movement of the headlight and a fastening for securing it in

either of several positions, whereby the head- 25 light when placed in position for use may be set with its face on a vertical line or at a desired angle and the said housing and said bearing then made to perform the function of a single piece, substantially as described. 30

5. In a headlight of the class described, the combination with the headlight proper of two supporting-hangers, one of which is hollow and each of which is provided with an arm
35 extending inwardly therefrom and at an angle thereto, and on which arms the headlight is revolubly mounted, one of said arms being hollow and having a movable socket-holder operative therein, said movable socket-holder
40 being provided with a passage-way through which current-conveying wires pass for connection with a lamp-socket, and a fastening device for securing said socket-holder within said hollow arm, substantially as set forth.

JOHN KIRBY, JR.

Witnesses:

E. L. LELAND,
H. D. HENDRICK.