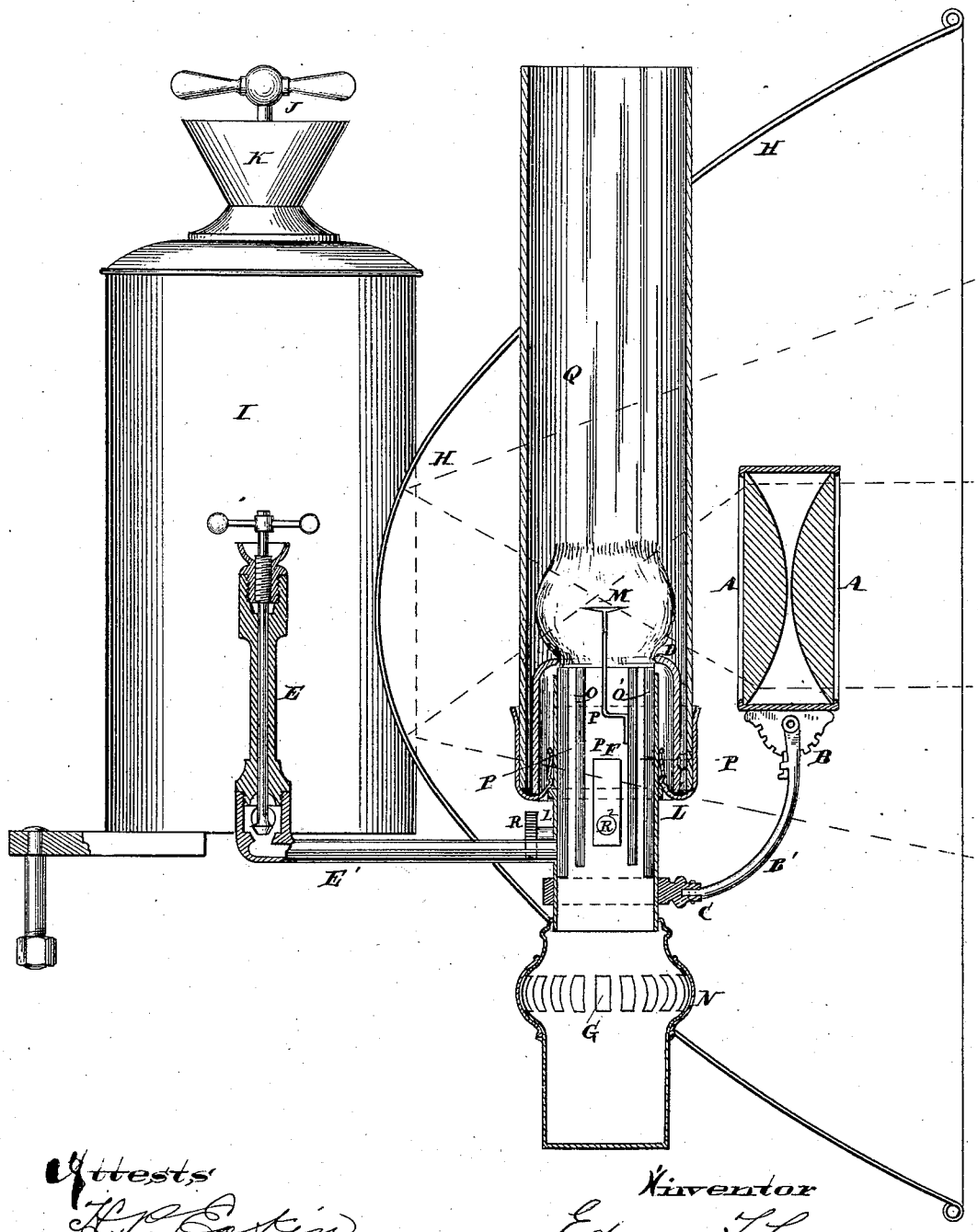
(No Model.)

R. E. M. SCHUBERT & E. T. CARSWELL.

LAMP AND LOCOMOTIVE HEADLIGHT.

No. 265,707. Patented Oct. 10, 1882.



Attests:
F. P. Eaton
Wm. E. Carson.

Inventor
Edwin T. Carswell
Robert E. M. Schubert
per George L. Buckley
Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ROBERT E. M. SCHUBERT, OF PHILADELPHIA, PENNSYLVANIA, AND EDWIN T. CARSWELL, OF WILMINGTON, DELAWARE.

LAMP AND LOCOMOTIVE HEAD-LIGHT.

SPECIFICATION forming part of Letters Patent No. 265,707, dated October 10, 1882.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that we, ROBERT E. M. SCHUBERT, of Philadelphia, Pennsylvania, and EDWIN T. CARSWELL, of Wilmington, Delaware, have invented certain new and useful Improvements in Lamps and Locomotive Head-Lights, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part hereof.

The nature of our invention will be fully set forth in the following description and claims.

The drawing represents a vertical sectional view of the lamp, lens, reflector, and the stem-valve, showing the oil-feed pipe and oil-reservoir in elevation.

A is a movable lens in front of the light; B, a hinge for directing the rays of light through the lens upward or downward, which is accomplished by inclining the lens backward or forward; B′, a curved support or bracket to sustain the lens; C, a hinge to enable it to be moved from side to side to throw the rays of light sidewise. D is a glass or transparent shield or inverted cup enveloping the burner, having an upper opening for the flame, which, while serving the usual purpose of shaping or giving form to the flame, also permits the rays of light to pass through it, whereby no shadow is cast. The metal shields of the same form are old, but are objectionable because of their opaqueness. E is a stem-valve, connected by means of a short pipe with the reservoir I, to regulate and control the flow of oil from the reservoir I through the tube E′ to the wick-chamber F; G, the air-supply openings for sustaining combustion; H, the ordinary head-light reflector. I is the oil-reservoir, having a screw-cap, J, in the bottom of a funnel-neck, K. L is the lamp; M, the flame of the same. N are slides round the openings G, which can be made to envelop the same by pushing them back more or less, the amount of air passing through openings G being regulated thereby. O O′ are wick-tubes formed of concentric double-walled cylinders. The cylinders contain the concentric tubular wicks, and between these cylinders, and in the interior of the smallest one, are air-spaces P P, which communicate with the openings G, for the purpose of supplying air to the flame M. Q is the lamp-chimney. R is a thumb-wheel furnished with the ordinary ratchet or spur wheels to turn the wicks. The outer concentric tube, O′, and its wick are pierced with a long vertical slot near the bottom, to permit the passage through said outer tube or cylinder of the shaft of the wick-elevator or spur-wheel R, by the turning of which the interior wick is turned up.

For increased power we have shown a double lens, A A, although one lens may be used, if desired. The joint C enables the lens to be turned from side to side, so as specially to illuminate one or the other side of the track, though this joint will be seldom used. We find that the joint B is all that is absolutely necessary, as by throwing the lens slightly forward, so that the ray of light is deflected until it strikes the ground closely in front of the engine, it will be broad enough where it strikes the track to illuminate both rails thereof, so that the engineer is thereby enabled to judge or to see exactly what distance he has passed a switch, and obviates the necessity of his going back a considerable distance to make sure that he has passed it sufficiently to enable it to be closed or changed, which he would have to do if he were compelled to back until the reflection from the head-light struck the switch. Thus considerable valuable time is by our device saved in making up and shifting trains and cars and in changing from one track to another.

The concentric tubular wicks, each having a full supply of air, enable us to produce a solid intense white light, having equal illuminating power or capacity on every side because of its roundness.

We construct the transparent shield D of glass. It is of the ordinary form of burner-shields, and fulfills its office in the same way as other shields, but from its transparency does not intercept the rays of light or cast a shadow.

We have made the joint B in the form of a curved rack and bolt, as shown, for the purpose of locking the lens at any desired angle. The joint C may be constructed in the same manner, as desired.

What we claim as new is—

1. In combination with a stationary head-light box and lamp L, the lens A, supported on

a standard or bracket, B′, and provided with a hinge, B, which permits the lens to be deflected so as to throw its face downward, or vice versa, whereby the rays of light from the lamp may be thrown downward or upward in their passage through the lens, substantially as described.

2. In combination with a lamp, L, the lens A, supported on a standard or bracket, B′, and provided with a hinge, C, adapted to permit the bracket of the lens to be moved around laterally in either direction, whereby the rays of light in their passage through the lens A can be thrown to either side, substantially as described.

3. In combination with a lamp, L, the lens A, supported on a standard or bracket, B′, and provided with a hinge, B, for the purposes described, and the stationary reflector H in the head-light box, substantially as set forth.

ROBERT E. M. SCHUBERT.
EDWIN T. CARSWELL.

Witnesses:
GEORGE E. BUCKLEY,
WM. H. CARSON.