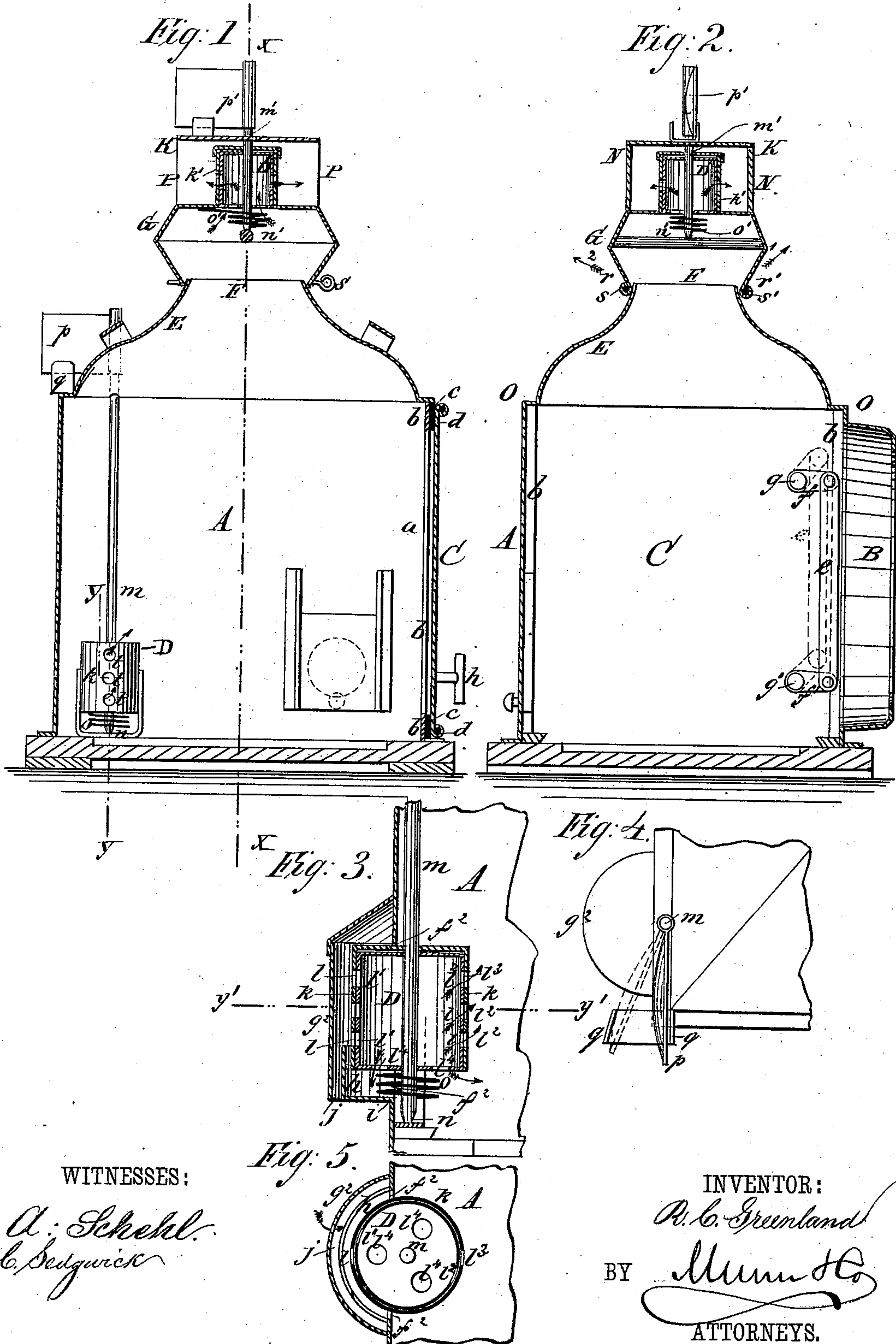


R. C. GREENLAND.  
Head-Light Case.

No. 227,763.

Patented May 18, 1880.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ROBERT C. GREENLAND, OF CONNELLSVILLE, PENNSYLVANIA.

## HEAD-LIGHT CASE.

SPECIFICATION forming part of Letters Patent No. 227,763, dated May 18, 1880.

Application filed November 1, 1879.

*To all whom it may concern:*

Be it known that I, ROBERT C. GREENLAND, of Connellsville, in the county of Fayette and State of Pennsylvania, have invented a new and Improved Head-Light Case, of which the following is a specification.

The object of my invention is to provide self-regulating ventilators for the head-light case, and otherwise to improve the construction of the case.

The invention consists, principally, in a novel arrangement of oscillating valves for securing a uniform ventilation of the case.

It also consists in arranging the door so as to obtain an air-tight joint and a device for more securely fastening the door.

Lastly, the invention consists in connecting the top of the case with the dome by means of a double hinge, so as to permit the top to be opened in two directions.

In the accompanying drawings, Figure 1 is a vertical cross-section of my improved head-light case. Fig. 2 is a vertical section on line  $x x$  of Fig. 1. Fig. 3 is a sectional detail of one of the ventilators, taken on line  $y y$  of Fig. 1. Fig. 4 is a detail of the jacket inclosing the ventilating-valve and the vane for operating said valve; and Fig. 5 is a horizontal section of the ventilator, taken on line  $y' y'$  of Fig. 3.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, the body of the head-light case is designated by the letter A. In the front side of body A is a circular flange, B, for the reception of the lens, and on one side is an opening,  $a$ , provided with a surrounding jamb,  $b$ , against which jamb, on the outside, is laid a strip of rubber,  $c$ . Opening  $a$  is provided with a door, C, hinged on one side, and arranged so that its edges will close against the rubber strip  $c$ , as shown at  $d d$  in Fig. 1, and form an air-tight joint therewith. Door C is fastened by a latch composed of an upright bar,  $e$ , having its ends pivoted to arms  $f f'$ , which are in turn connected with the door by pivots  $g g'$ . Pivot  $g'$  passes through the door C, and is provided with a bar,  $h$ , on the outside; by means whereof said pivot is turned so as to throw bar  $e$  up in the position

indicated by the dotted lines in Fig. 2, when the door is to be opened; but when the door is to be fastened the bar  $e$  is turned to the position it occupies in Fig. 2, when it passes behind jamb  $b$ , and thus fastens the door.

In the back of the case near the floor, on one side, an opening,  $f^2$ , is cut in the body A, and this opening  $f^2$  is inclosed by an outside semi-cylindrical jacket,  $g^2$ , closed at the top and open at the bottom. A septum,  $h$ , is placed within the jacket  $g^2$  and attached to the body at  $i$ . Between septum  $h$  and jacket  $g^2$  is an opening,  $j$ , for the admission of air.

In opening  $f^2$  is fixed a cylindrical valve-case,  $k$ , closed at the top and open at the bottom, and having in its sides circular perforations  $l$ . Inside of case  $k$  is an oscillating cylindrical valve, D, closed at top and bottom, which is fixed to a shaft,  $m$ , passed down through dome E and the top of case  $k$ , and has its lower end pivoted at  $n$ . In the sides of valve D are perforations  $l'$ , which coincide in position with the perforations  $l$ . A spiral spring,  $o$ , is wrapped around shaft  $m$ , and has one end fixed to valve D and the other to the body A of the case. On the top of shaft  $m$ , which projects through dome E, is fixed a vane,  $p$ , which is allowed a slight movement between two stops,  $q q$ . The spring  $o$  holds the valve D in such a position that perforations  $l l'$  coincide, as shown in Fig. 3, and in this condition the air for supplying the flame of the lamp passes from its exterior up through opening  $j$ , thence through perforations  $l l'$  to the interior of valve D, from whence it passes out through inside perforations  $l^2 l^3$  of the valve D and jacket  $g$  and the perforation  $l^4$  in the bottom of valve D, as indicated by the arrows.

When the wind blows hard or when the engine is running very fast the pressure of the wind against vane  $p$  (said vane being retained in the position it occupies in Fig. 4 by the spring  $o$ ) throws said vane into the position indicated by the dotted lines, and causes it to turn valve D so as to throw the perforations  $l' l^2$  out of line, as in Fig. 5, and thus cut off the supply of air to the interior of the case.

The central opening, F, in the top of the dome E is covered by a top, G. Said top is



connected with the dome on opposite sides by the hinges *r r'*, so that by removing pintle *s* the top can be turned on hinge *r'* in the direction of arrow 1, and by removing pintle *s'* said top can be turned on hinge *r* and opened in the direction of arrow 2.

In top *G* is a ventilator constructed and operated in precisely the same manner as the one just described. In this ventilator or valve 10 *D'* is the perforated oscillating valve *k'* and the perforated valve-case let into the top *G*. *m'* is the valve-shaft pivoted in cross-bar *n'* in top *G*. *p'* is the vane, and *o'* is the spring on shaft *m'* for holding the valve open.

15 When the pressure of air against vane *p* partially or entirely closes valve *D* to regulate the admission of air to the case the same pressure of air against vane *p'* partially or entirely closes valve *D'*, and thus regulates the emission of air from the case through said valve, 20 so that by means of the top and bottom ventilators the quantity of air in the case is kept approximately uniform.

25 Over the top ventilator is placed a shield, *K*, which has its ends *N N* in line with the front and back *O O* of the head-light case closed, so that when the engine is running forward or back the top ventilator is protected from the draft, which, without this shield,

would draw down through the valve *D'* and 30 interfere with the light. The sides *P P* of shield *K* are open, thus allowing the air to escape freely from the top ventilator.

Having thus described my invention, what I claim as new, and desire to secure by Letters 35 Patent, is—

1. As an improvement in head-light cases, in combination with the body *A* and door *C*, the rubber strip *c* and bar *e*, having its ends pivoted to the arms *f f'*, said arms being con- 40 nected with the door by pivots *g g'*, as and for the purpose substantially as described.

2. The combination, in a head-light case, of one or more oscillating valves, *D*, inclosed in suitable cases, and provided with a shaft, *m*, 45 spring *o*, and vane *p*, as and for the purpose substantially as described.

3. In combination with the valve *D*, the jacket *k* and septum *h*, substantially as de- 50 scribed.

4. The top *G*, connected with the dome *E* by double hinges *r r'*, in combination with the head-light case, substantially as described.

ROBERT COOPER GREENLAND.

Witnesses:

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JOSIAH KURTZ.