F. RHIND.

Car-Lamp.

No. 165,755. Patented July 20, 1875.

Fig 1.

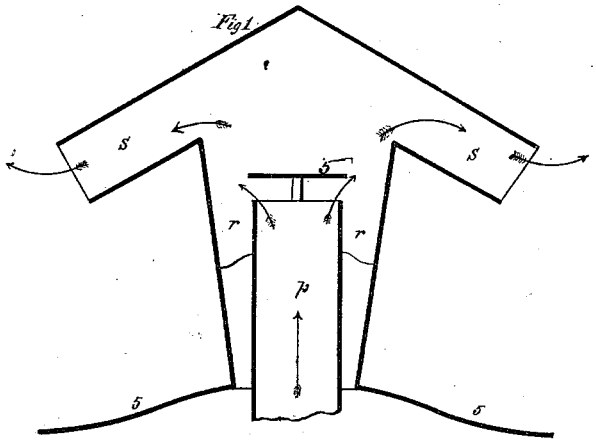


Fig 2.

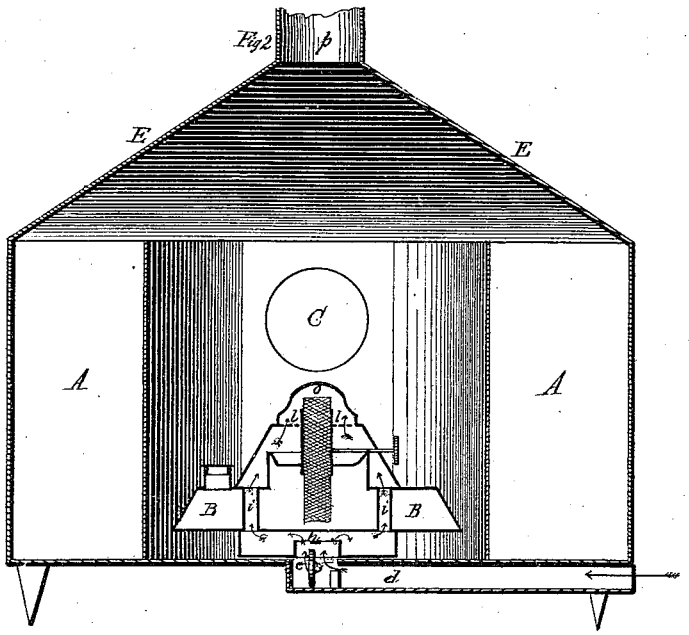
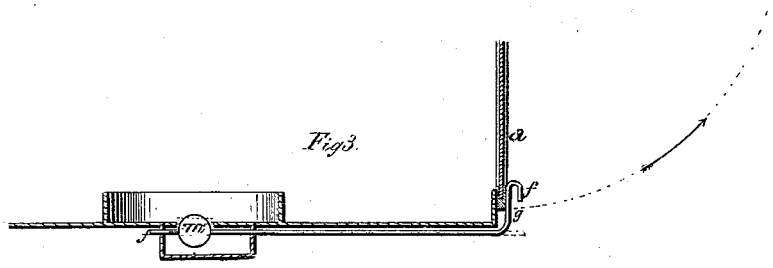


Fig 3.



WITNESSES.

J. Wm. Garner.

C. W. Simon.

INVENTOR.

Frank Rhind

per F. A. Lehmann Catty

UNITED STATES PATENT OFFICE.

FRANK RHIND, OF BROOKLYN, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO KEYS P. COAL, OF NEW YORK, N. Y., AND JANE E. SMITH, OF CRAWFORD, NEW JERSEY.

IMPROVEMENT IN CAR-LAMPS.

Specification forming part of Letters Patent No. **165,755**, dated July 20, 1875; application filed February 11, 1875.

To all whom it may concern:

Be it known that I, FRANK RHIND, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Car-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in car-lamps; and consists in the construction of parts by which the glass chimneys generally used on lamps in which coal-oil or other volatile fluids are burned, are dispensed with, and the smoke consumed or driven off, so as not to cause any inconvenience, or to obscure the light, as will be more fully described hereafter.

The accompanying drawing represents my invention.

A represents the frame of a triangular form, the apex of which is cut off or flattened, and in the upper part of this is placed a plano-convex lens or bull's-eye, C. On the top of this triangular frame is a roof, E, elevated in the center, over which a chimney, *p*, is placed. The inner side of the frame A is closed by a glass door, *a*, hinged at its upper edge to the frame A, so that the door has to be lifted up to gain access to the interior. In the center of the bottom within the frame A is an opening, *c*, which communicates with the outside by means of the air-tube *d* under the bottom of the frame, which tube is made considerably larger than the opening *c*, so as to occasion a stronger current of air. A valve, *m*, closes or opens the opening *c* by means of a rod, *f*, curved at its outer end, so as to serve the double purpose of operating the valve, and of fastening or unfastening the door *a*, and is applied so that the door is fastened down by turning the catch *g*, or the rod *f*, the valve is opened, and, vice versa, shut when the glass door is opened. This arrangement is to prevent a counter current of air, by which the flame might be extinguished when the frame is opened. The lamp B has an opening, *h*, in the bottom, into which, when placed over the opening *c*, the air rushes through the air-tube *d*, and passes through the tube *i* in the interior of the lamp, and through the perforated plate *l* into and around flame, which is confined by a dome-shaped covering, *o*, over the plate *l*, and issues through a narrow slit in this cover.

The object of this invention is to dispense with the glass chimneys necessary to supply the required current of air for a perfect combustion of smoke. By introducing this current of air from the outside into and around the flame in greater quantities, as is done by this invention, the frame A supplies the place of the glass chimneys, the smoke is consumed, and all the incombustible parts carried away through the tube *p* on the top of the roof of the frame. At a short distance from the roof the tube *p* is surrounded by a jacket, *r*, which is wider at its upper than its lower end, and diverges into two short descending tubes, *s*, at opposite sides. Around the lower edge of the jacket is a plate, 5, as wide as the frame A, and nearly as long, and slightly bent downward. This arrangement prevents the currents of air caused by the opening of the car-doors from interfering with the flame in the lamp.

Having thus described my invention, I claim—

1. The frame A, having the air-tube *d*, in combination with a lamp having one or more air-tubes passing through it, substantially as described.

2. In combination with the door *a*, the rod *f*, having the valve *m* secured to its inner end, and a catch on its outer end, whereby the valve is opened when the door is locked, and closed when the door is opened, substantially as set forth.

3. In a lamp for street-cars, the combination of the air-tubes *i*, perforated plate *l*, and covering *o*, substantially as shown.

4. In combination with a lamp for street-cars, the tube *p*, jacket *r*, tubes *s*, and plate 5, whereby the flame is prevented from being extinguished by currents of air, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand this 4th day of February, 1875.

FRANK RHIND.

Witnesses:
BENJ. H. BAYLISS,
O. G. GUDMUNDSON.