W. O. B. MERRILL.

Coal Oil Lamp for Railway Cars.

No. 35,534. Patented June 10, 1862.

Fig. 1.

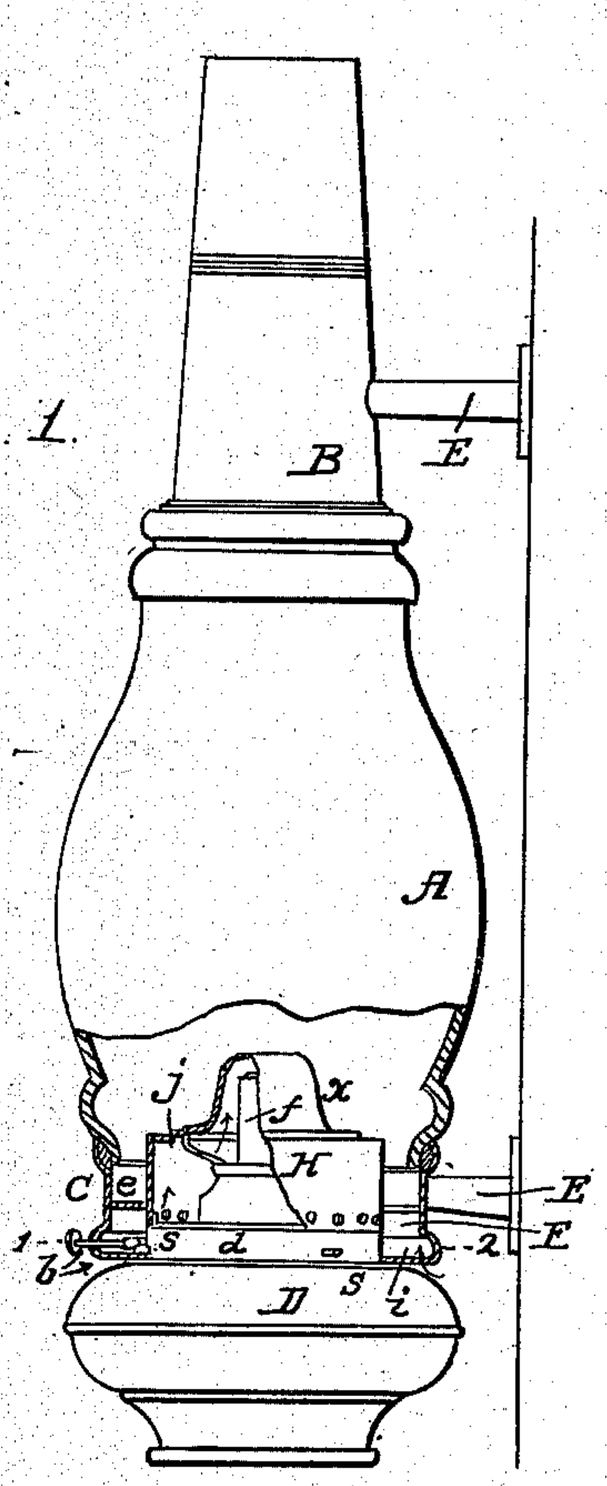


Fig. 3.

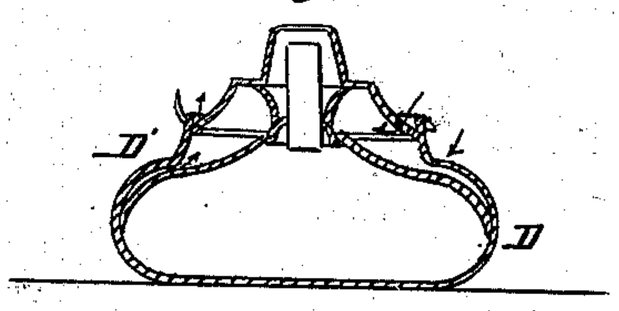
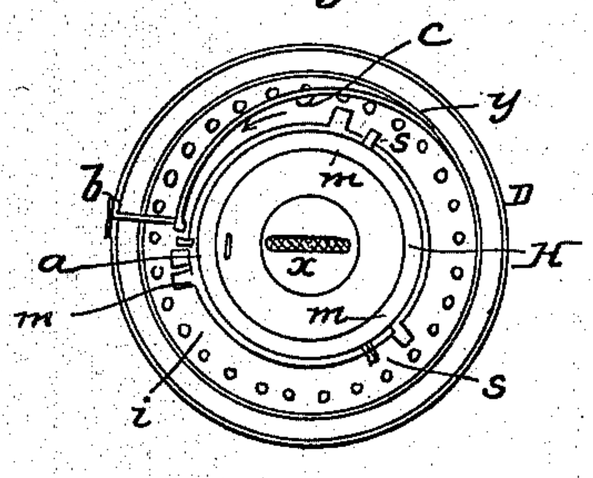


Fig. 2.



Witnesses:
Charles E. Foster.
Charles Howson

Inventor:
Henry Howson
Atty for W. O. B. Merrill

UNITED STATES PATENT OFFICE.

W. O. B. MERRILL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED COAL-OIL LAMP FOR RAILWAY-CARS.

Specification forming part of Letters Patent No. **35,534**, dated June 10, 1862.

To all whom it may concern:

Be it known that I, W. O. B. MERRILL, of Philadelphia, Pennsylvania, have invented certain Improvements in Coal-Oil Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists, first, of a chimney constructed and arranged for attachment to the side or roof of a car or other object, in combination with a reservoir and burner of a coal-oil lamp, both being detachable from said chimney; secondly, in a device for connecting the reservoir to and disconnecting it from the chimney; thirdly, in the peculiar arrangement of the base of the chimney, a flange within and a perforated flange on the lower edge of the said base, and a perforated cap, whereby a plentiful supply of air is furnished to the flame.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view, partly in section, of my improved coal-oil lamp for railway-cars, &c.; Fig. 2, a sectional plan on the line 1 2, Fig. 1; and Fig. 3, a modified form of reservoir for the lamp.

The chimney of my improved lamp consists of a glass tube, A, of the form or approximating to the form represented in Fig. 1, a hollow metallic base, C, being cemented or otherwise permanently secured to the base of the glass tube, to the top of which is secured a metal tube, B, the latter having a projection, E, and a similar projection, E′, being attached to or forming a part of the base C. Both of these projections have flanges for attachment to the side of the car or other vehicle or object from which the lamp has to project.

On the lower edge of the base C is a flange, *i*, in the opening formed by which fits the projecting portion *d* of the reservoir D, the latter being of the form represented in the drawings, or of any other form which may be found most suitable for containing the desired quantity of coal-oil. A hollow cap, H, rests on the top of the projecting portion *d* of the reservoir, and to this cap is secured the usual dome, *x*, having at the top the oblong opening common to other coal-oil lamps.

In the space inclosed by the cap H and dome *x* is the usual flat wick-tube, *f*, the latter being secured to a disk or plate which screws into the reservoir. The cap H and dome *x* are retained in their proper position in respect to the wick-tube by a rod, *j*, secured at one end to the wick-tube, the opposite passing through an opening in the cap.

Projecting from the side of the portion *d* of the reservoir are three pins, *s s s*, situated at equal distances apart from each other, and at points *m m m* in the flange *i* of the hollow metal base C of the chimney are cut openings, so situated and of such a form as to admit of the passage through them of the pins *s s*. At the point *y*, on the inside of the hollow base C of the chimney, is riveted one end of the curved spring *c*, on the opposite end of which is a rod, *b*, which passes through an opening in the side of the base C, and which is furnished at the end by a disk or button. A flange, *e*, is secured to the inside of the base C of the chimney, at a point above the perforations in the lower edge of the cap H, this flange forming the top of the chamber F, to which air is admitted through openings in the flange *i* of the base.

In order to secure the movable reservoir and burner to the fixed or suspended chimney, the former is brought to such a position that the pins *s s* on the reservoir shall coincide with and pass through the openings *m m* on the flange *i*, when the reservoir and burner are turned round in the direction of the arrow, Fig. 2, the end of one of the pins *s* pressing against the inside of the spring *c*, and continuing to push it back until the pin passes the end of the spring, when the latter recoils and prevents the reservoir from being turned back, while a projection or stop, *a*, on the flange *i* prevents the continued movement of the reservoir, which is thus securely locked to the fixed or suspended chimney, the sound made by the sudden recoil of the spring being a certain indication that the attachment of the reservoir is secure. When the reservoir has to be withdrawn from the chimney, all that is necessary is to move the spring, by means of the rod *b*, to such a position as to permit the

reservoir to be turned back until the pins *s* again coincide with the opening *m* of the flange *i*.

Air is supplied to the flame by passing first through the openings in the flange *i* into the air-chamber F, and thence through the perforations in the cap H.

Fig. 3 illustrates a reservoir of a modified construction, in which the upper portion of the reservoir is covered by a supplementary casing, D, through perforations in which the air passes to the intervening space, and thence through the interior of the cap to the flame, the cap in this instance being similar to those used in ordinary coal-oil lamps.

I claim as my invention and desire to secure by Letters Patent—

1. The chimney composed of the hollow metal cap B, glass tube A, and metal base C, with the projections E and E′, or their equivalents, for the attachment or suspension of the chimney to the side or roof of a car or to any other object, in combination with the detachable reservoir D and its burner.

2. The projections *s s* on the reservoir, in combination with the openings *m m* on the flange *i* of the base C, the spring *c*, its rod *b*, and the stop *a*.

3. The combination and arrangement of the base C, flange *e*, perforated flange *i*, and perforated cap H.

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

W. O. B. MERRILL.

Witnesses:

CHARLES E. FOSTER,

HENRY HOWSON.