

(No Model.)

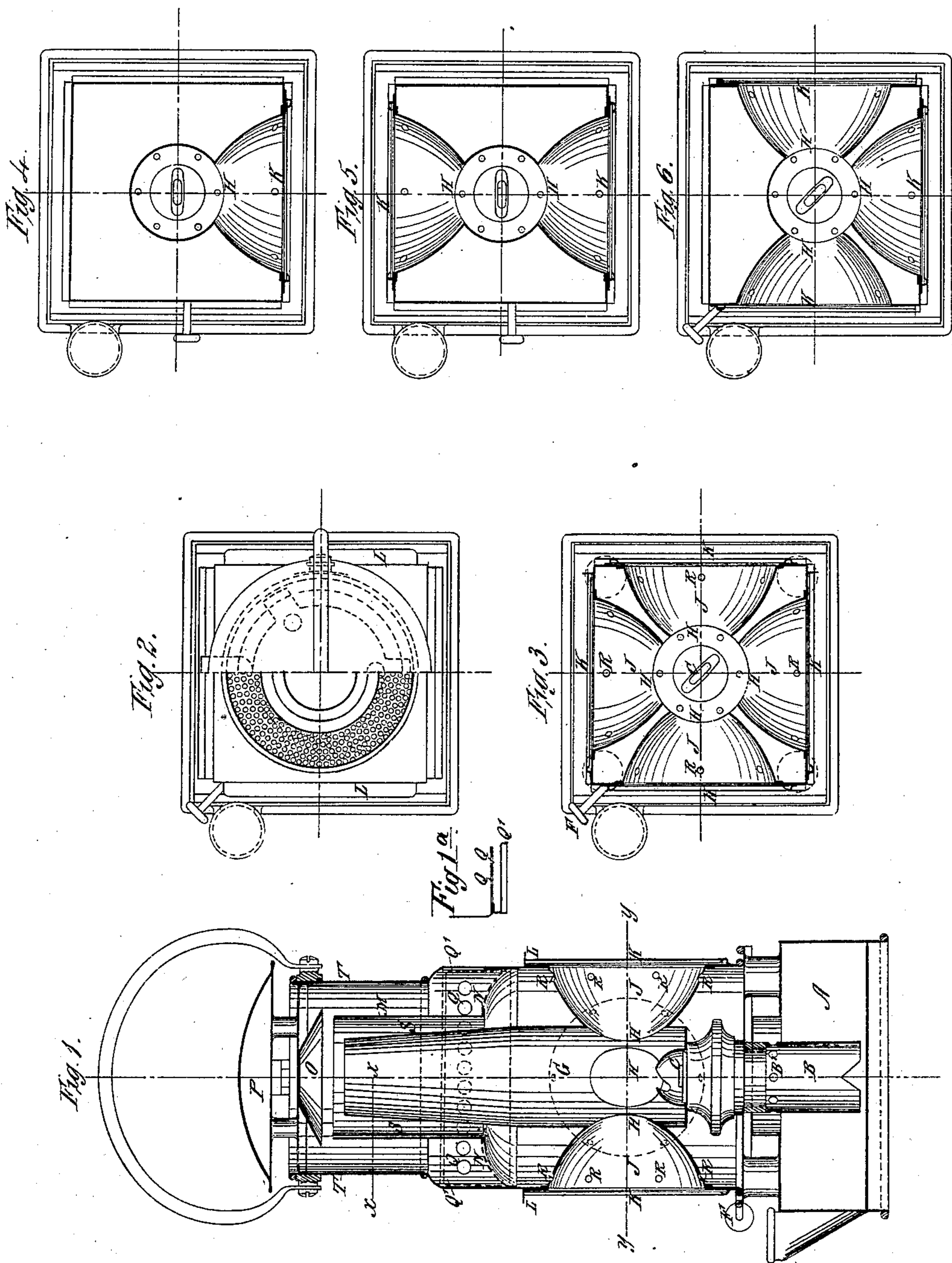
2 Sheets—Sheet 1.

T. C. J. THOMAS.

LAMP.

No. 256,930.

Patented Apr. 25, 1882.



Witnesses:  
Wm C. Gey,  
Charles C. Stetson

Inventor:  
T. C. J. Thomas  
by his attorney, J. S. Stetson

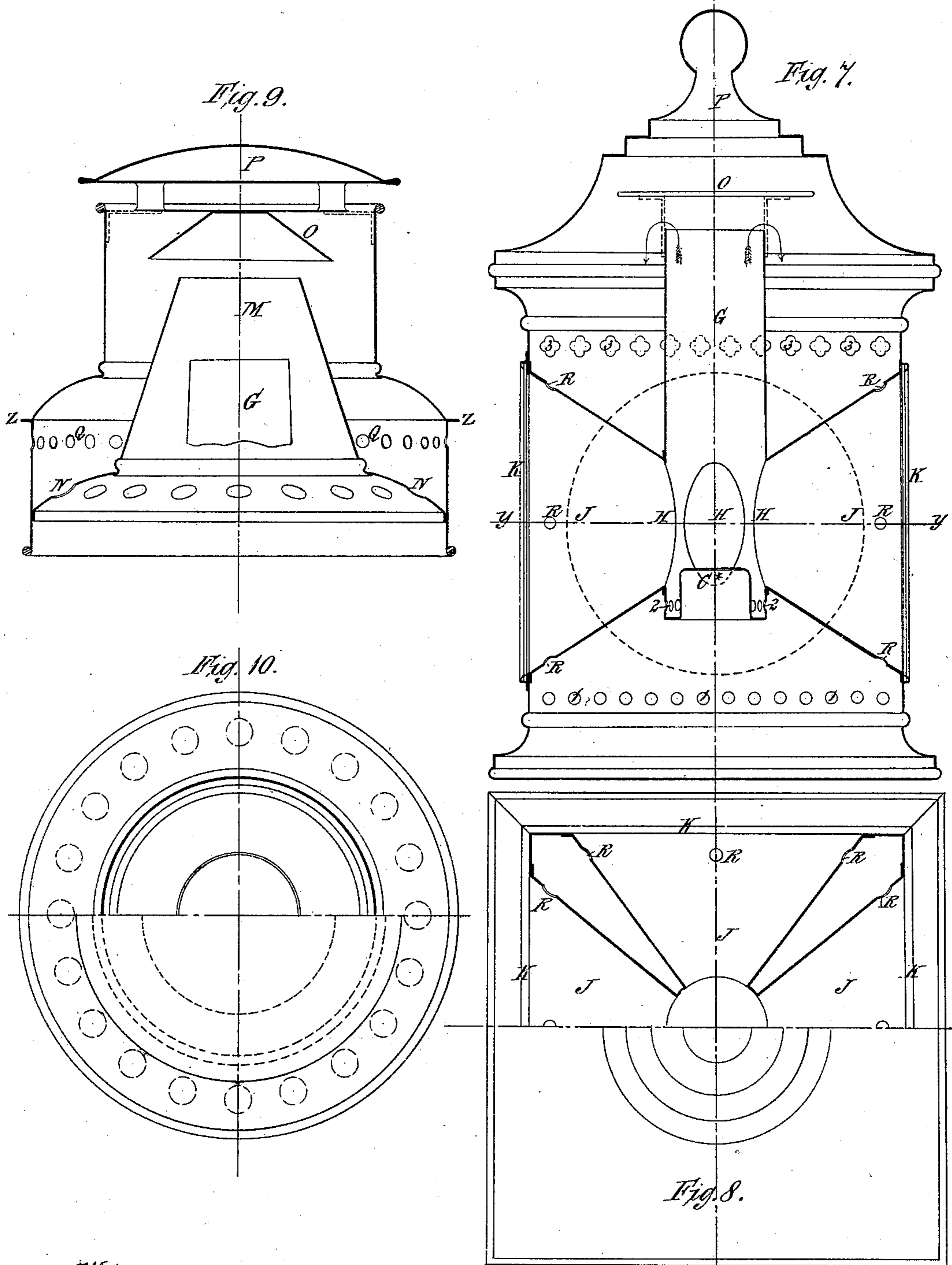
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*Charles C. Stetson*

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*T. C. J. Thomas*  
by his attorney *C. L. Stetson*

# UNITED STATES PATENT OFFICE.

THOMAS C. J. THOMAS, OF 54, 55, AND 56 MINORIES, COUNTY OF MIDDLESEX,  
ENGLAND.

## LAMP.

SPECIFICATION forming part of Letters Patent No. 256,930, dated April 25, 1882.

Application filed October 3, 1881. (No model.) Patented in England June 26, 1880, in France December 22, 1880, and in Belgium December 24, 1880.

*To all whom it may concern:*

Be it known that I, THOMAS COOPER JOHN THOMAS, a subject of the Queen of Great Britain and Ireland, residing at 54, 55, and 56 Minories, in the county of Middlesex, Kingdom of Great Britain and Ireland, have invented new and useful Improvements in Lamps, (for which I have obtained patents in Great Britain, No. 2,604, bearing date June 26, 1880, in France, No. 140,278, bearing date December 22, 1880, and in Belgium, No. 53,412<sup>B</sup>, bearing date December 24, 1880,) of which the following is a specification.

I construct a lamp (to burn either oil, gas, or candle) wherein the flame is contained in a metallic chimney, which at its lower end surrounds the burner, the cone of which is attached to the chimney. The chimney is formed with a hole or holes, around which is or are secured the inner end or ends of a chamber or chambers of parabolic form in longitudinal section, and radiating from the chimney with the larger diameter outward. The chamber or chambers terminates or terminate at the chimney, and the outer end or ends of the chamber or chambers is or are closed with glass of any suitable description. It may be by a lens or lenses. The form of chamber may be varied. It may be conical or of square or polygonal cross-section, so long as there is a gradual widening toward the outer or glazed end. In lamps having an odd number of such chambers as above referred to I prefer to employ round wicks. When four such chambers are employed I use a flat-wick burner with its slot arranged diagonally, so as to present, as nearly as may be, an equal amount of light to each chamber. By inclosing the light in the chimney, as described, I am enabled to improve the combustion and obviate the darkening of the chambers by smoke, which is liable to occur where the flame is in the chambers themselves.

The air necessary to support combustion is admitted at the upper part of the lamp, passes downward, and reaches the flame through the burner or slot, (the products of combustion escaping by the chimney.) I provide around the upper part of the chimney a second or inner

top plate, which is perforated for the passage of air, and is furnished with a deflector, guide, or wall so arranged as to leave an annular space for the circulation of air between itself and the chimney, to prevent overheating of the outer casing of the lamp.

In the drawings, Figure 1 is a vertical sectional elevation of a lamp according to my invention. Fig. 1<sup>a</sup> is a detail showing the guard-plate placed around the row of perforations on the lamp-body.

Fig. 2 is a plan of the same, partly in section in line *x x* of Fig. 1; and Fig. 3 is a horizontal cross-section of the same in line *y y* of Fig. 1. A is the oil tank or reservoir; B, the wick-tube, provided with holes B' B' for the escape of vaporized oil; C; the burner with its slot arranged diagonally in relation to the parabolic reflectors, (see Fig. 3,) and F the milled head of the wick-pinion spindle. The whole of the above parts are connected together, and are attached by a hinged joint, (not shown,) and secured by a catch to the upper part of the lantern. G is a metal chimney with holes at H H H H for the emission of light. Around these holes are secured the inner ends of the parabolic chambers J J, made of bright or reflecting material. The outer ends of the chambers are closed by sheets of glass K K K K, carried in frames L L, which may be made to slide in ways on the side of the lamp. Around the upper part of the chimney is a perforated plate, N, furnished with a tubular deflector, guide, or wall, M, so arranged as to leave an annular space, S, for the circulation of air between M and the chimney, to prevent overheating of the outer casing, T, of the lamp. O is a deflector attached to the cover P. Q Q are ventilating-holes protected against drafts by a guard-plate, Q', which surrounds the perforated portion Q and prevents the direct passage of air to the chamber within, and R R are small holes communicating from the chambers into the body of the lamp.

Figs. 4, 5, and 6 are horizontal cross-sections in line *y y* of Fig. 1, showing lamps with one, two, and three reflecting-chambers, respectively, for various uses.

Fig. 7, Sheet 2, is a longitudinal sectional

elevation of a large lamp constructed with reflecting-chambers connected with a chimney according to my invention, adapted for heating as well as lighting. Fig. 8 is a plan of same, partly in section in line *y y* of Fig. 7. 5 C\* is the cone of an Argand gas-burner; but other kinds of burners—for instance, oil-burners or a series of burners arranged annularly or otherwise—may be used. G is the metal chimney with holes H H for the emission of light, around which holes are secured to the chimney the inner ends of the conical chambers J J. O is a deflector-plate, and P a circular cover. 1 1 2 2 are inlet-holes for air, and 15 3 3 egress-holes for products of combustion.

Fig. 9 shows in vertical section, and Fig. 10 in plan and section, an arrangement of upper part of a railway-carriage lamp provided with a perforated plate, N, and a deflector or guide, 20 M, according to my invention. It will be understood the metal chimney enters M, and that there is an annular space between the chimney and M, as described with reference to Fig. 1. O is the deflector attached to the hinged cover 25 P. Q Q are holes for ventilation.

What I claim is—

1. The chimney G, having the openings H formed at suitable positions around the chimney, being independent of each other, in combination with the parabolic or other suitably-tapering formed chambers, mounted with their small ends in the openings H and their expanded ends bearing against the side of the lantern, whereby both the chimney and the reflectors are held in place, substantially as set forth. 30 35

2. In a lamp, the combination of the chimney G, provided with the holes H, and supported by the ends of the chambers J J entering said holes H, with said chambers J, and with the burner C set diagonally in relation to the chambers, substantially as set forth, and for the purpose specified. 40

T. C. J. THOMAS.

Witnesses:

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