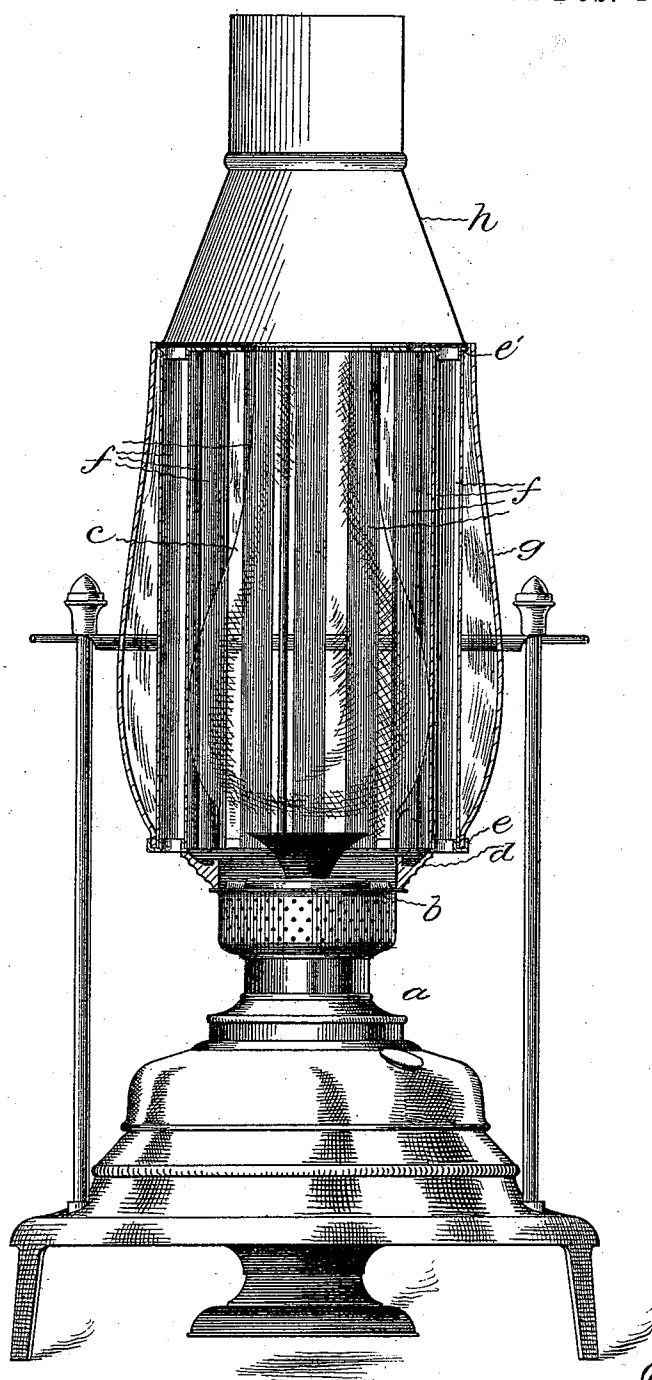


(No Model.)

J. D. HUMPHREY.
COMBINED OIL HEATER AND ILLUMINATOR.

No. 554,696.

Patented Feb. 18, 1896.



Witnesses:

Andrew Ferguson
C. E. Buckland.

Inventor:

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Atty

UNITED STATES PATENT OFFICE.

JOHN D. HUMPHREY, OF NEW BRITAIN, CONNECTICUT.

COMBINED OIL HEATER AND ILLUMINATOR.

SPECIFICATION forming part of Letters Patent No. 554,696, dated February 18, 1896.

Application filed December 6, 1895. Serial No. 571,262. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. HUMPHREY, a citizen of the United States of America, residing at New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in a Combined Oil Heater and Illuminator, of which the following is a description, reference being had to the accompanying drawing, wherein the figure is an elevational view of a combined heater and illuminator embodying said improvement, with the parts from the top downward to about the level of the burner, or a little below, in central vertical section.

The object of the improvement is the production of a device in the nature of a heater and illuminator adapted to burn kerosene-oil.

The letter *a* denotes the body of the lamp, which is shown, in the drawing, as set into and supported by an appropriate base and stand.

The letter *b* denotes the burner as a whole—a burner for a circular wick.

The letter *c* denotes the lamp-chimney, which, for the purposes of this device, must be of some material which permits the heat to pass through it and radiate from it with a fair degree of facility. In practice, and for the purposes of illumination, it should be of glass.

The letter *d* denotes a removable ring supported upon the lamp-body. It rests upon an annular shoulder, such as is found on nearly all lamps on the market. This ring just referred to supports a flange *e*. The letter *e'* denotes another similar flange. The pipes *f*, open at both upper and lower ends, run from flange *e* to flange *e'*. The letter *g* denotes a chamber-casing resting at its foot upon the flange *e*. This combination of chimney *c*, flanges *e e'* and chamber-casing *g* constitute a heating-chamber within which the air is stationary and practically without draft. Traversed from bottom to top by the open-end pipes *f*, it results that when the lamp is burning the air within this chamber is heated to a high degree, wherefore air from without is drawn into the lower end of pipes *f* and passes upward through the same in a steady strong

current, which is thoroughly heated in its passage through these pipes. This heating-chamber begins practically at or about the same level as the flame. For purposes of illumination the chamber-casing *g* is, like the chimney *c*, made of glass, and when both these parts are of such a transparent material the apparatus furnishes an abundance of light as well as heat.

The letter *h* denotes a removable funnel borne on the top of flange *e'*, condensing into one mass of current the heat which rises through the chimney *c* and that which comes from the pipes *f*.

I claim as my improvement—

1. In combination, the chamber-casing *g*, the chimney *c* within such casing, the burner *b* within such chimney, the open-end pipes located between such chimney and such casing and starting at the foot from about the flame-level; and the flanges *e e'* extending substantially from chimney to casing, all substantially as described and for the purposes set forth.

2. In combination, the glass chamber-casing *g*, the glass chimney *c* within the casing, the burner *b* within the chimney, the open-end pipes *f* located between the chimney and the casing and starting at the foot from about the flame-level, and the pipe-flanges *e e'* extending substantially from chimney to casing, all substantially as described and for the purposes set forth.

3. In combination, the lamp *a*, burner *b*, chimney *c*, removable ring *d* supported on the lamp-body, the chamber-casing *g*, open-end pipes *f*, the flange *e'*, and the flange *e* resting upon said removable ring, all substantially as described and for the purposes set forth.

4. In combination, lamp-body *a*, the burner *b*, chimney *c*, chamber-casing *g*, open-end pipes *f*, flanges *e e'* and removable funnel *h* resting on flange *e'*, all substantially as described and for the purposes set forth.

JOHN D. HUMPHREY.

Witnesses:

STEPHEN R. LAWRENCE,
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