

(No Model.)

H. W. LIBBEY.  
GAS GENERATING ATTACHMENT FOR LAMPS.

No. 453,307.

Patented June 2, 1891.

Fig. 1.

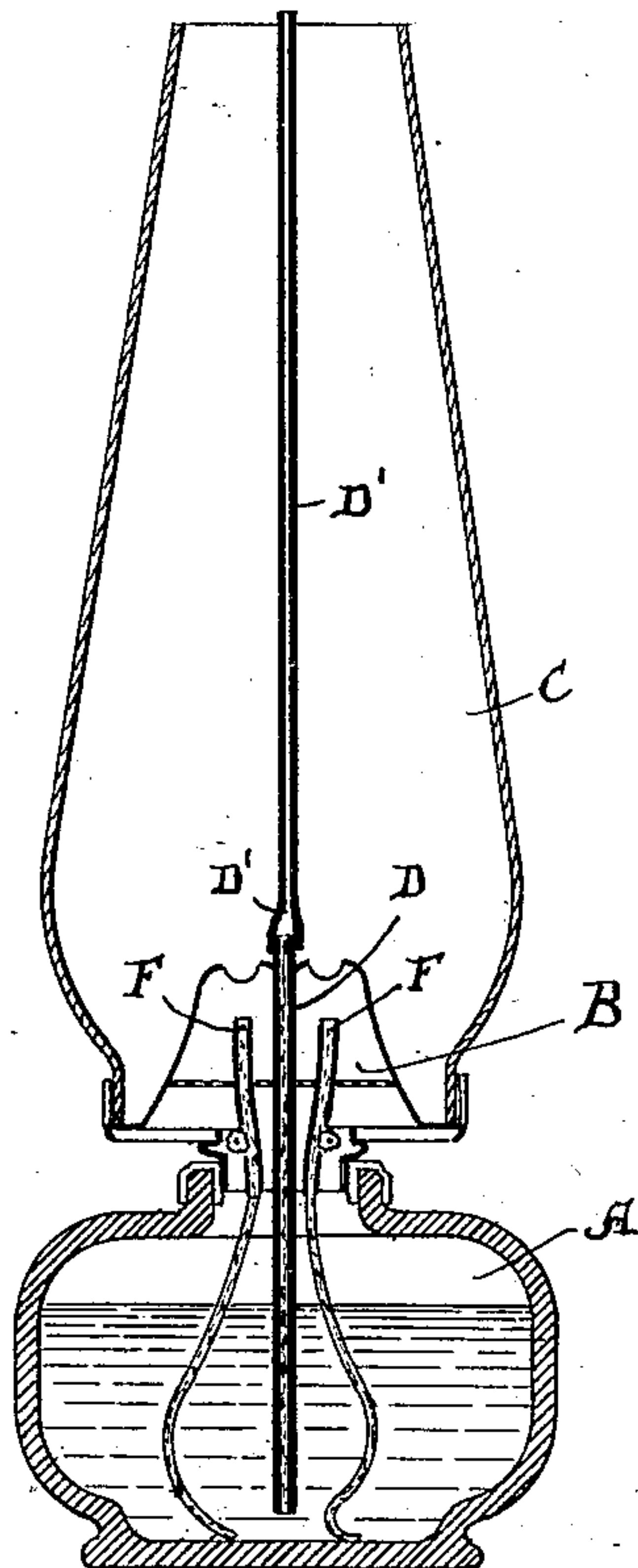


Fig. 2.

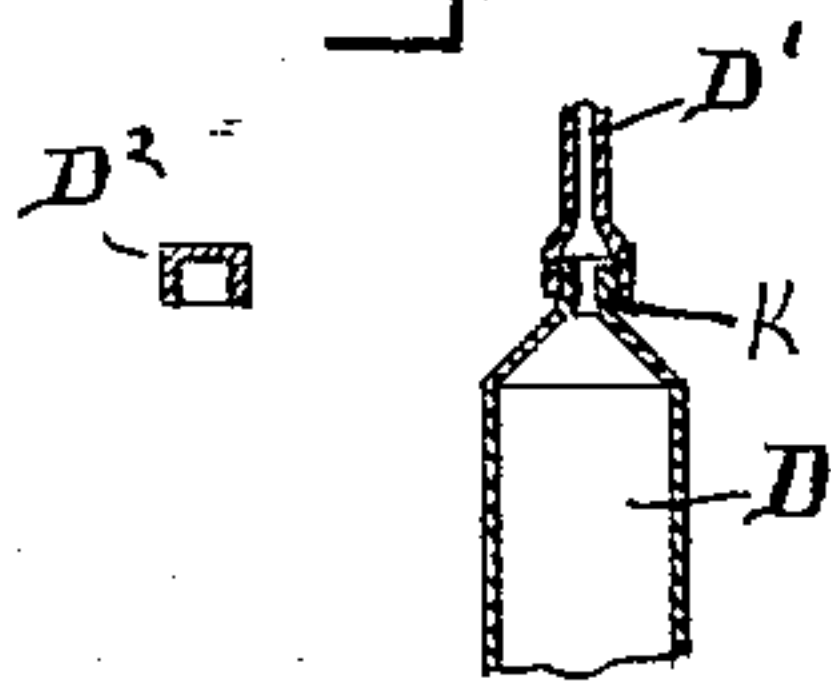


Fig. 3.

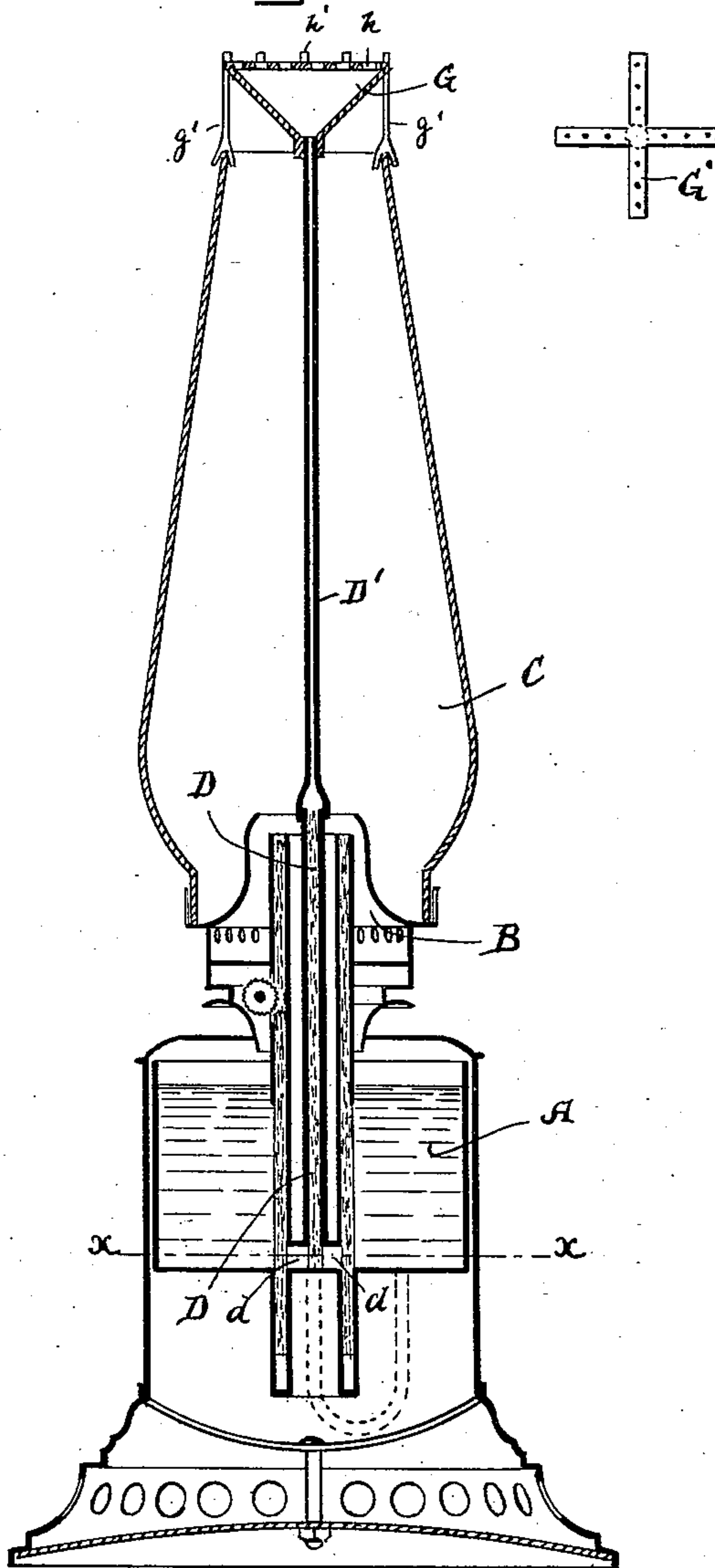
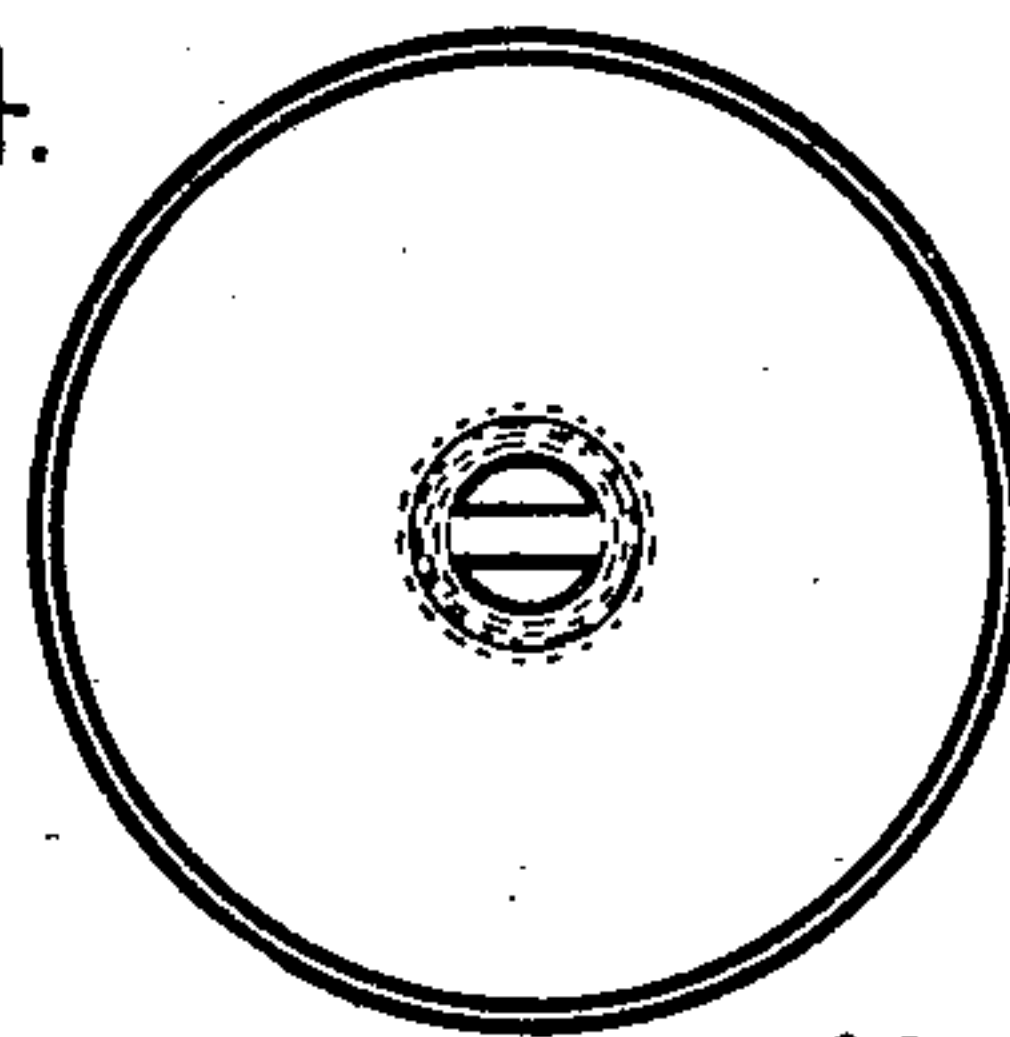


Fig. 4.



Witnesses:

*L. R. Wood*  
*Lottie Planta.*

Inventor

*H. W. Libbey*  
*by Edwin Planta*  
*attorney.*

# UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS.

## GAS-GENERATING ATTACHMENT FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 453,307, dated June 2, 1891.

Application filed January 6, 1890. Serial No. 336,035. (No model.)

*To all whom it may concern:*

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Gas-Generating Attachments for Lamps, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to provide an attachment to ordinary hydrocarbon-oil lamps used for illuminating purposes, whereby said lamps may be caused to generate gas to be employed for cooking or heating purposes.

The invention consists in certain details of construction, as hereinafter fully described, and pointed out in the claim.

Referring to the accompanying drawings, Figure 1 represents an ordinary lamp with a duplex burner with my invention applied thereto. Fig. 2 is a detail view of same. Fig. 3 is an ordinary lamp with a round wick with my invention applied thereto. Fig. 4 is a horizontal section taken on line  $x x$  of Fig. 3.

A represents the oil-reservoir, B the burner, and C the chimney. D is a tube extending from about the top of the burner to or near the bottom of the oil-reservoir, and D' a tube extending from the tube D to the top of the chimney.

In Fig. 1 I have shown a duplex burner with the tube D passing down into the oil-reservoir in the center of the two wicks F'. This is preferably flat and narrow and at its upper end tapered off on each side, as best seen in Fig. 2. It is filled with any suitable wick, so that the oil will be drawn from the bottom to the top. The upper end of this tube is provided with a small nozzle K, onto which is screwed a round tube D', that extends up to or beyond the top of the chimney C.

In Figs. 3 and 4 I have shown a lamp with a round wick. In this case the tube D is connected to the bottom of the oil-reservoir A by means of tubes  $d$ , as shown; or, if desired, the tube D might be arranged to connect in the manner shown in dotted lines. The upper

end of the tube E may be left open, as shown in Fig. 1, or a vapor-burner G may be screwed thereon, as shown in Fig. 3. The burner is formed with an expansion-chamber and a number of small holes  $h$  in its upper surface, through which the gas passes to be consumed. A series of pins or projections  $h'$  are formed upon the top of the burner, on which a vessel to be heated may be placed, and to prevent the burner G from canting to one side or the other the burner may be provided with legs  $g'$ , (preferably three,) that rest upon the top of the chimney C. If desired, the burner might be of the form shown at G', or of any suitable shape. If it is desired to use the lamp for illuminating purposes only, then the upper tube D' can be removed and a screw-cap D<sup>2</sup> be placed upon the top of the tube D. The lamp will then be as an ordinary lamp.

The operation is as follows: The lamp being fitted with wicks and filled with oil, the wicks in the ordinary burners are then lighted and the flame impinging against or surrounding the upper end of the tube D causes the oil to be drawn up by the wick in the same, which is then converted into vapor that passes up the tube D' and is consumed at its upper end; or, if a burner, as G or G', is placed upon the upper end of the tube D', the vapor will pass through the holes  $h$  and be consumed.

What I claim as my invention is—

A lamp for illuminating and heating purposes, consisting of an ordinary hydrocarbon-oil lamp with a wick or wicks and a chimney, a central tube and contained wick extending a short distance above the ordinary burners, and a tube fitting on said central tube and extending above the chimney, substantially as and for the purposes set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 30th day of December, A. D. 1889.

HOSEA W. LIBBEY.

Witnesses:

JOHN P. S. CHURCHILL,  
EDWIN PLANTA.