

(No Model.)

W. H. KIMBALL.  
SELF EXTINGUISHING LAMP.

No. 289,843.

Patented Dec. 11, 1883.

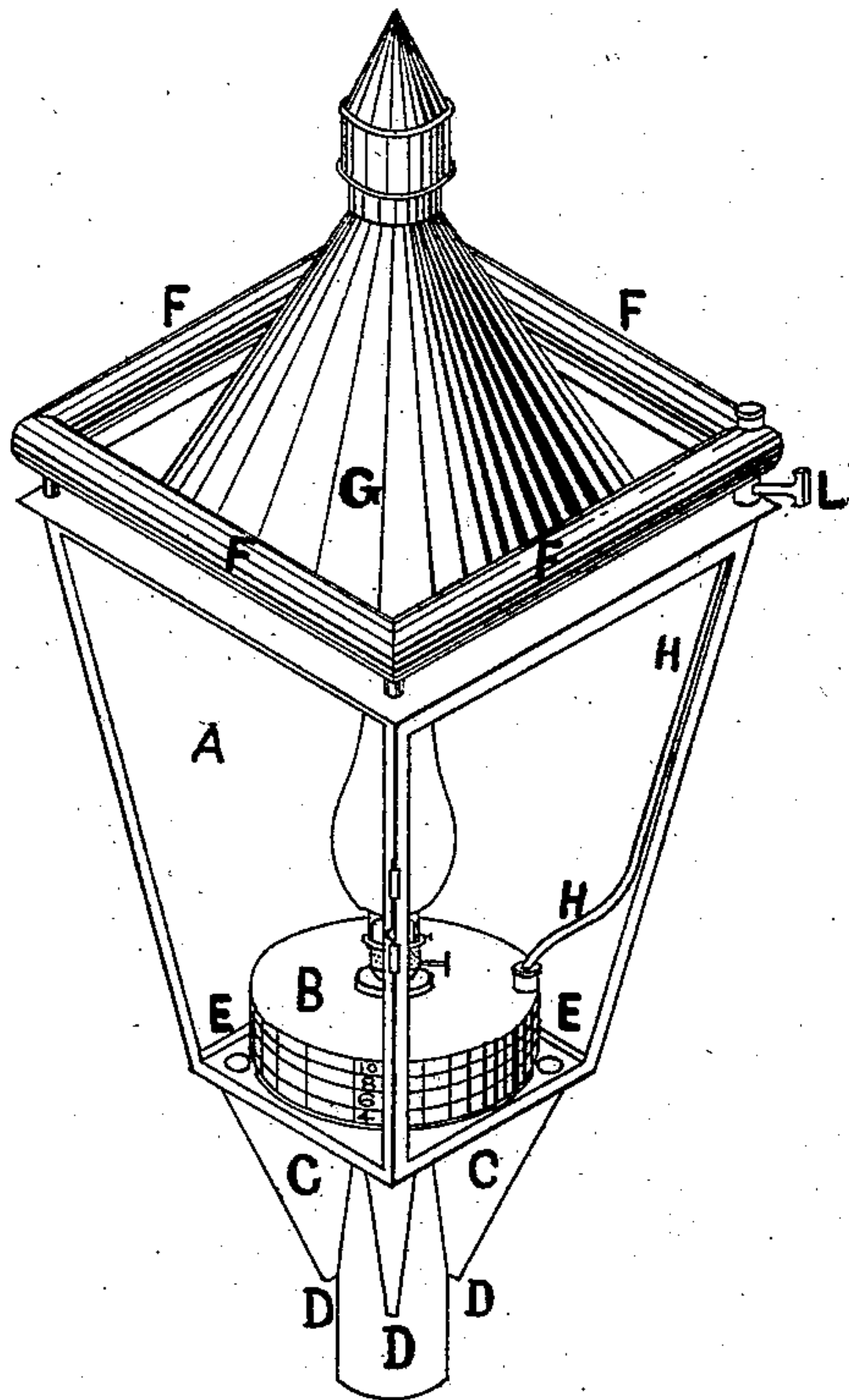


Fig. 1.

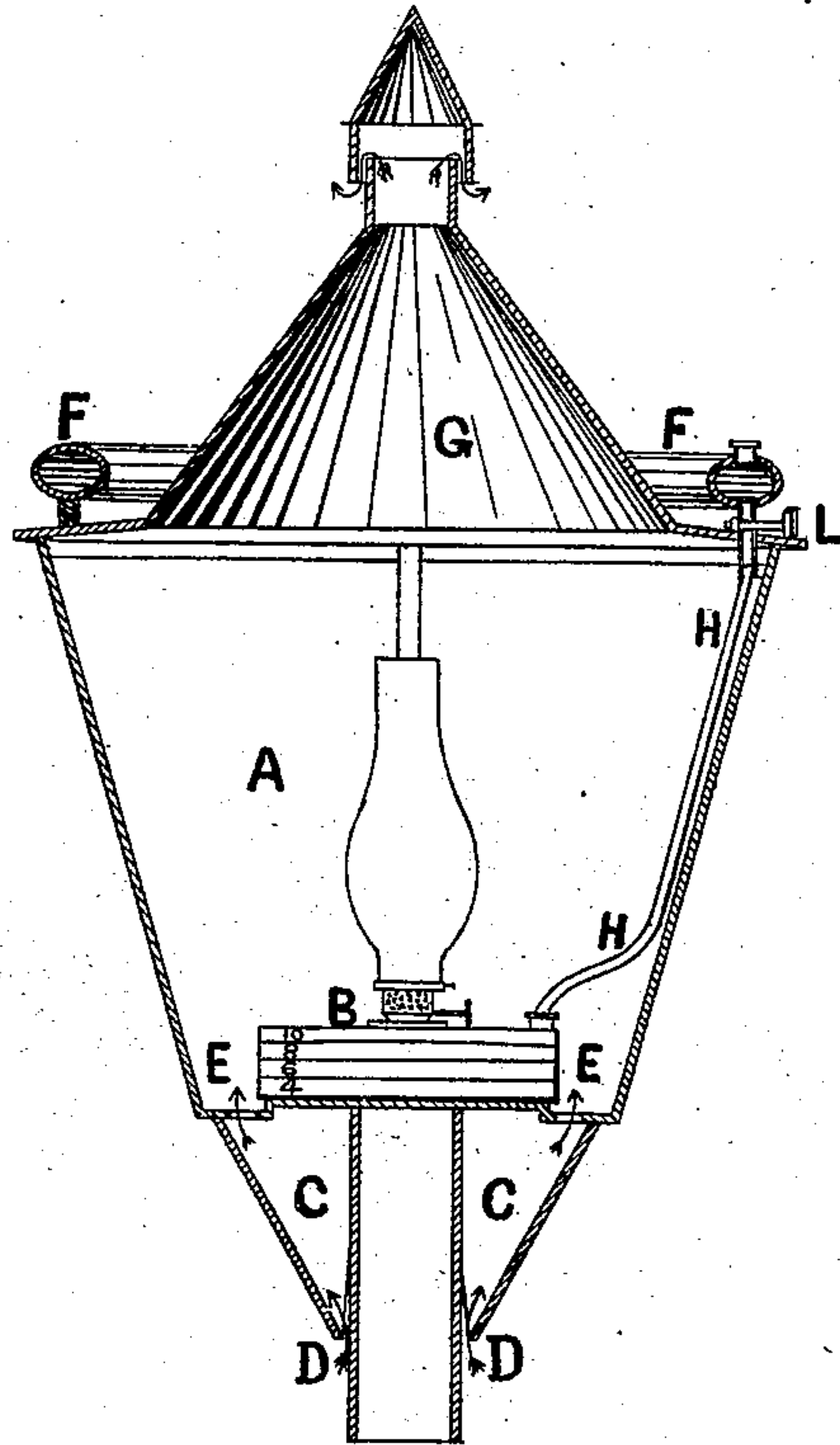


Fig. 2.

Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM H. KIMBALL, OF BOSTON, MASSACHUSETTS.

## SELF-EXTINGUISHING LAMP.

SPECIFICATION forming part of Letters Patent No. 289,843, dated December 11, 1883.

Application filed February 1, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. KIMBALL, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Self-Extinguishing Lamps, of which the following is a specification.

The object of my invention is to provide a cheap, simple, convenient, and efficient self-extinguishing lamp for street-lighting purposes, whereby the light may be automatically extinguished, or "go out," after burning a predetermined number of hours from the time when lighted—say two, four, six, eight, or ten hours, more or less, as desired—when arranged at the time of lighting each day and with once filling of the reservoir sufficient to last a week and burn the desired time each night; and it consists in the construction, combination, and arrangement of the several parts of the apparatus, as hereinafter more fully described, and set forth in the claims.

Figure 1 represents a perspective view of a self-extinguishing lamp and lantern constructed according to my invention. Fig. 2 represents a vertical sectional elevation of the same.

A represents the sides of a street-lantern, of usual construction, being formed of glass set into a suitable metallic frame, one side being provided with a hinged door to permit access to the interior of the lantern to light, trim, or regulate the burner of usual construction, provided upon the lamp or reservoir B; and in order that the light and interior of the lantern may be supplied with a suitable amount of air to sustain combustion and prevent undue heat being generated within the lantern, I have provided within the bottom thereof a series of openings provided with a shield, forming a conduit, C, whereby the air is admitted without the sudden rush or increased currents, as usually the case when the wind blows hard, or with sudden "gusts," liable to extinguish the light or cause it to smoke, the said conduits C being formed with an interior opening or passage for the air to enter therein, much smaller than their outlet into the lantern, and the main body of still larger diameter, so as to form a dead-air space of sufficient length and capacity to check the sudden rush of air through the inlets D, where-

by the passage of air through the outlets E into the lantern is rendered uniform at all times.

Now, in order that the lights of such lanterns may burn a predetermined number of hours when lighted, and become automatically extinguished at the desired time, I have provided the lamp-reservoir B with a series of horizontal circumferential graduation-marks, indicated with certain numerals, as a guide and gage to be observed by the attendant when filling such reservoir. The quantity of oil, as indicated by the said marks and numbers 4, 6, 8, and 10, would supply the burner such number of hours, when the oil would burn out, and consequently the light would become extinguished; and as the quantity of oil consumed by a number of such lamps would be very inconvenient to be supplied at the time of lighting, and would necessarily occupy too much time, it is desirable that the lamps should be filled and prepared for lighting during the day, and when the desired time for lighting arrives that they be lighted in the various streets expeditiously. I have provided an elevated fountain, F, upon the upper portion of the lantern, extending around the exterior of the conical top G, which is provided internally as a deflector or reflector, so as to throw the light downward. This fountain F may be constructed with a capacity sufficient to contain oil enough to supply the burner the desired number of hours each night for a week, and, being so arranged and located, does not obscure the light or render the lantern objectionable in appearance, but, being uniform upon all sides of the lantern, renders the same more ornamental than otherwise.

Now, in order to supply the lamp-reservoir B with the exact amount or quantity of oil to burn the desired number of hours each night, I connect a small vertical tube, H, with the said elevated fountain F, and leading into the top of the said lamp-reservoir B, and provide the said tube H with a stop-cock, L, whereby the attendant, when ready to light the lantern for the night, turns the said stop-cock, so as to permit the oil to descend from the said fountain F into the lamp-reservoir B, so as to fill the same up to the indicated point, or sufficient to burn the length of time desired, or



number of hours required to keep the light burning to light such street or adjacent place until daylight, or until no longer needed. Such quantity of oil having been consumed, the light  
5 will die out at the desired time without the labor of an attendant to extinguish the same.

I am well aware that heretofore street-lanterns have been provided with an elevated oil-reservoir and an auxiliary graduated reser-  
10 voir or measure connected therewith and with the lamp by a conducting-pipe having a stop-cock, whereby the desired supply of oil to burn one night may be drawn from the upper reservoir into the graduated measure or  
15 auxiliary reservoir, and then from that into the lamp beneath, thus requiring two operations to supply the lamp with the quantity of oil to burn several hours or one night. Therefore I do not broadly claim such combination  
20 of devices, but limit my invention to the construction and arrangement of the graduated lamp with a pipe connecting the same direct with the main reservoir, as above described and shown.

25 Having thus described my invention, what I claim is—

1. The combination and arrangement of the lamp B, having vertical graduated sides adapted to indicate the desired quantity of oil to be put therein for the purposes described, with  
30 the lantern A, having an elevated fountain, F, provided with a conducting-pipe, H, having a stop-cock, and connected directly with the interior of the said lamp, substantially in the manner shown and described, as and for  
35 the purposes set forth.

2. The combination, with a street-lantern, of the conduits C, arranged to conduct and check the currents of air passing into the lantern, substantially as shown and described, as  
40 and for the purposes set forth.

3. As an improved article of manufacture, a transparent lamp-fount having vertical sides provided with a graduated scale adapted to indicate the desired quantity of oil to be put  
45 therein, whereby the said lamp may serve a double purpose, substantially as described and shown, as and for the purposes set forth.

WILLIAM H. KIMBALL.

Witnesses:

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