(No Model.)

3 Sheets—Sheet 1.

C. W. BODKIN.

STREET LAMP.

No. 492,320.

Patented Feb. 21, 1893.

Fig. 1.

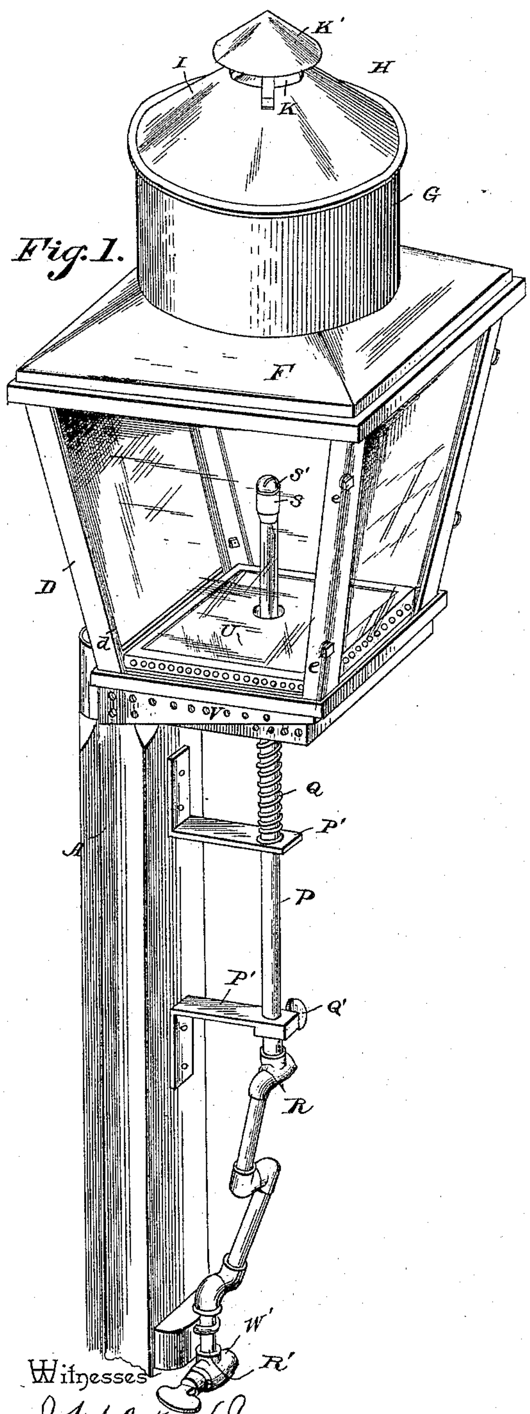
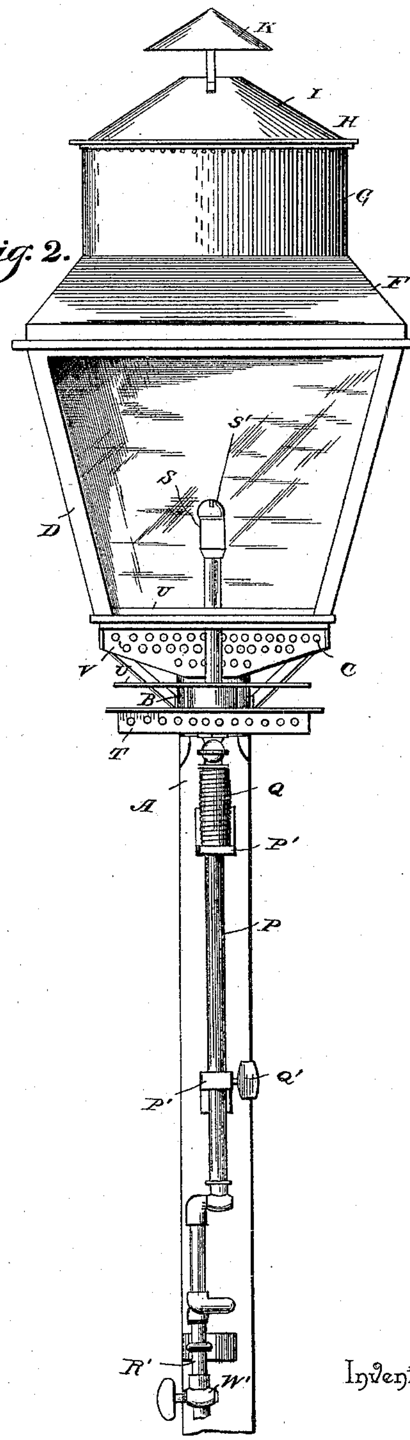


Fig. 2.



Witnesses

Inventor

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By his Attorneys,

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(No Model.) 3 Sheets—Sheet 2.

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Fig. 3.

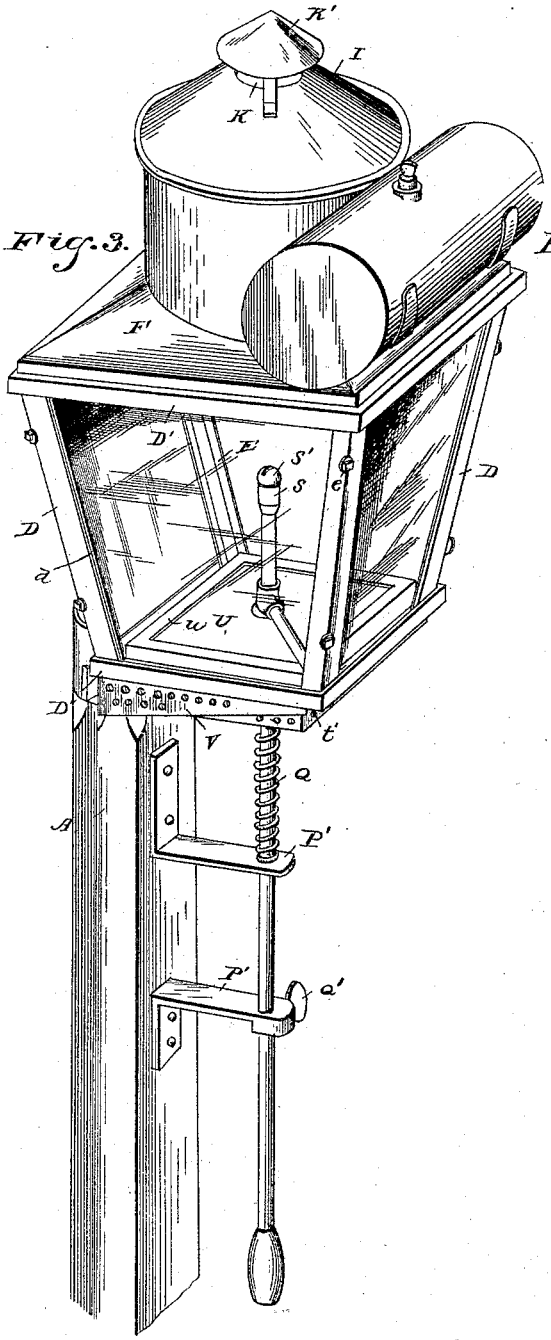


Fig. 4.

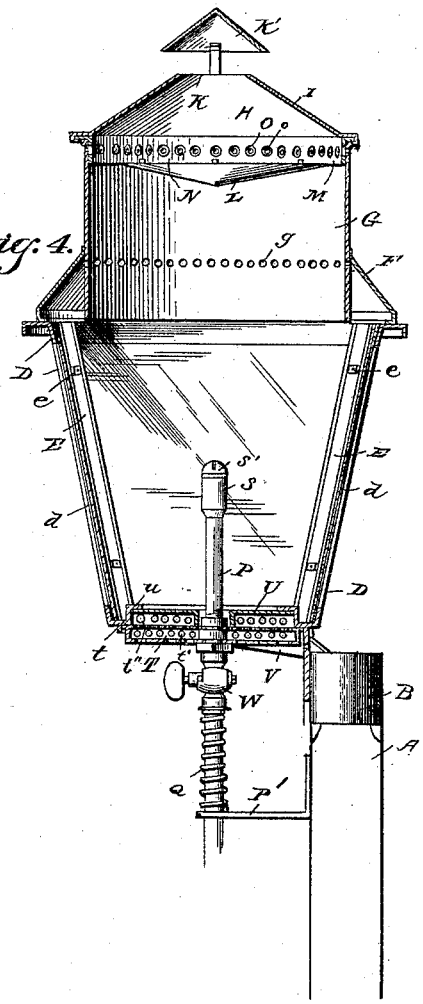
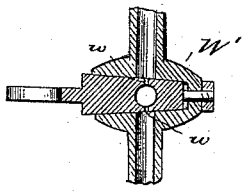


Fig. 7.



Witnesses

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STREET LAMP.

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Fig. 5.

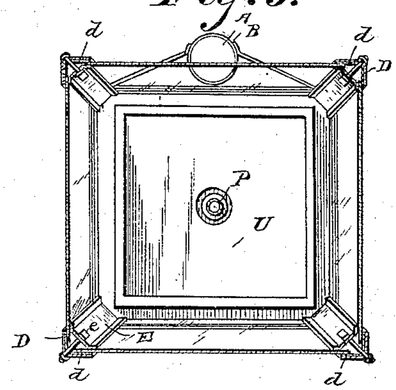
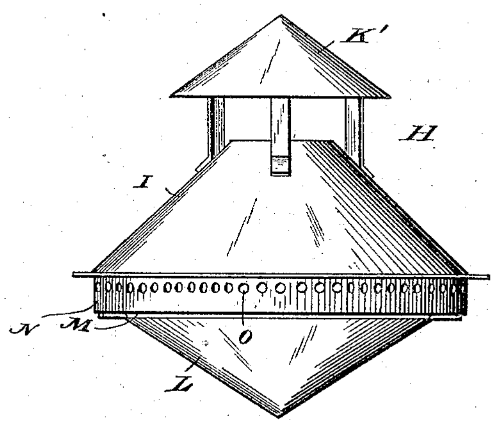


Fig. 6.



Witnesses

J. Ulke, Jr.

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UNITED STATES PATENT OFFICE.

CHARLES W. BODKIN, OF CELINA, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE H. HOUSER, OF SAME PLACE.

STREET-LAMP.

SPECIFICATION forming part of Letters Patent No. 492,320, dated February 21, 1893.

Application filed August 20, 1892. Serial No. 443,624. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BODKIN, a citizen of the United States, residing at Celina, in the county of Mercer and State of Ohio, have invented a new and useful Street-Lamp, of which the following is a specification.

My invention relates to improvements in street lamps, designed especially for utilizing natural gas as an illuminating agent, and also adapted for gasoline, and other illuminants of a like nature.

The object of my invention is to provide a lamp having improved draft and exhaust devices, whereby sufficient air is supplied to support complete combustion without admitting enough to cause the light to flicker.

A further object of my invention is to provide a lamp provided with means to carry off the products of combustion without the danger of overheating, whereby hydrocarbon fuels producing intense heat may be burned therein without fusing or otherwise injuring any of the parts of the structure.

A further object of my invention is to provide means for excluding dust, dirt, &c., and preventing the deposit of the products of combustion, or the waste due thereto, upon the interior surface of the lamp.

A further object of my invention is to provide means for lighting, cleaning, trimming, or otherwise adjusting the parts without the use of the ordinary hinged door, the objection to the latter being that air is admitted between the edges of the door and the frame of the lamp; the door is liable to blow open; the glass in the door is liable to be broken when the latter is opened, and it is inconvenient to reach the burner and the inner surfaces of the sides of the lamp through the ordinary door opening.

A further object of my invention is to provide means for gaging and regulating the supply of fuel to the burner.

A further object of my invention is to provide means for lighting a series of lamps, of any desired number, from a central office or station, without visiting the lamps individually.

Further objects and advantages of my invention will appear in the following description in connection with the drawings, the novel features thereof being particularly pointed out in the claims hereto appended.

In the drawings; Figure 1 is a perspective view of a lamp-embodying my invention, arranged in the operative position, and connected to burn natural gas. Fig. 2 is a front view of the same, with the movable bottom depressed, as seen when lighting or cleaning. Fig. 3 is a perspective view showing the lamp arranged to burn gasoline or other liquid fuel. Fig. 4 is a vertical central sectional view of the lamp. Fig. 5 is a horizontal sectional view. Fig. 6 is a side view of the cap. Fig. 7 is a detail sectional view of the partial cut-off.

A represents the vertical support or post, to the upper end of which my improved lamp is attached by means of a collar, B, which is secured to and carried by the frame, C. This frame consists of the upwardly divergent corner bars, D D, angular in cross-section, to the inner sides of which by means of adjusting bolts, *e e*, are secured the angular retaining strips, E E, the edges of the glass, forming the sides of the lamp, being inserted between said angle-strips and the corner bars of the frame, and secured therein by means of the adjusting bolts. The top, F, is trunco-pyramidal, and is provided with a central opening in which is fitted the vertical chimney, G. This chimney extends below the inner surface of the top, and is provided close to the plane of the latter with a series of ventilating perforations, *g g*, whereby the heat which ascends into the trunco-conical top, around the lower end of the chimney may escape into the latter. The inner surfaces of the top and bottom bars, D′ and D″, and the inner surfaces of the corner bars, D D, all of which are in the same plane, are provided with asbestus packing strips, *d*, against which the glass is pressed by the retaining strips, above described, and the said packing-strips furthermore, absorb all the condensed moisture which collects upon the inner surface of the top, and prevents it from flowing down the surface of the glass.

The removable cap, H, which fits in the upper end of the chimney, comprises a conical concentrator, I, provided at its apex with an outlet opening K, over which is arranged a

conical water-shed or shield, K′, and an inverted conical deflector, L, arranged at the base of the concentrator, with an annular air-passage, M, between its periphery and the vertical depending flange, N, which is attached to the base of the concentrator. This flange fits within the upper end of the chimney, and is provided with a series of openings, O, which are adapted to register, severally, with the smaller perforations, *o*, which are formed near the upper edge of the chimney.

The floor or bottom of the lamp is removable and is carried by a vertical, tubular operating rod, P, which is fitted to slide in guides, P′ P′, attached to the support or post, and is embraced by a coiled spring, Q, which bears at its lower end upon one of the brackets, whereby the floor or bottom is normally held in place within the bottom of the frame of the lamp. A clamping-screw, Q′, is arranged in one of the brackets, to clamp the operating rod in either its elevated position, as shown in Fig. 1, or its depressed position, as shown in Fig. 2. To the lower end of this tubular rod is connected, by means of the flexible coupling, R, the line pipe, R′, which supplies the fuel. The upper end of the tubular rod, within the lamp is attached the burner, S, having the tip, S′.

The bottom or floor of the lamp is hollow, consisting of a chamber, T, the upper and lower and side walls of which are perforated, as shown, and it bears at its upper edge, when in its operative position, against an off-set, *t*, which is formed upon the inner sides of the bottom bars of the frame of the lamp. The vertical portion of said off-set is provided with perforations *t′*, which communicate with a channel *t″* around the bottom of the frame. Above the said off-set is a horizontal, inwardly projecting flange, *u*, and above the double bottom or floor, and carried by the operating rod, is arranged the horizontal, imperforate guard-plate, U, which fits at its edges against the under side of said flange, and thus causes the air which enters through the hollow, perforated bottom to support combustion, to pass through the perforations in the off-set and thence through the channel, *t″*, into the body of the lamp. A depending guard flange, V, is arranged around the bottom of the frame of the lamp, outside the hollow floor or bottom, as shown.

In the tubular operating rod, close to the floor of the lamp is arranged a regulating valve, W, which is adjusted to supply the desired quantity of fuel to the burner, and is allowed to remain in this adjusted position, permanently.

A cut-off, W′, is arranged in the supply-pipe, at any desired point, preferably adjacent to the flexible coupling, the same being provided with a duct or passage, *w*, whereby a limited supply of the fuel is allowed to pass to the burner when the cut-off is closed, thus supporting a small flame at all times. By this arrangement the light is maintained at all times, so that all that is necessary, to produce an illumination, is to turn on the full supply, by means of the cut-off.

The flexible coupling may consist of jointed sections, as shown, or may be a rubber tube, as preferred.

From the above description it will be readily understood that to gain access to the interior of the lamp for any purpose it is simply necessary to draw the operating rod downward, as indicated in Fig. 2, thus withdrawing the floor or bottom from the frame of the lamp. In this way I do away with a hinged door which cannot be made to fit snugly enough to exclude the wind and is liable to be blown open and broken. The spring retains the floor or bottom in its normal position except when drawn down by means of the operating rod.

In Fig. 3 I have illustrated my lamp adjusted for the use of gasoline as a fuel, in which case the tubular rod is provided at its lower extremity with a hand hold, as shown, and a suitable socket is arranged upon the floor or bottom for the support of the burner.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a street lamp, the combination with the frame, of a vertical chimney extending downwardly below the roof of the frame, and provided with vent perforations, and the removable cap fitting in the upper end of the chimney and provided with a conical cover and a subjacent, inverted conical deflector, having a peripheral air-passage, substantially as specified.

2. In a street lamp, the combination with the frame, having a vertical ventilating chimney provided at its top with a peripheral series of perforations, of a removable cap fitting in the upper end of the chimney and consisting of a conical cover, having a depending perforated flange to fit in the chimney, and an inverted conical deflecting plate provided with a peripheral air-passage, substantially as specified.

3. In combination with a street lamp, the removable hollow floor or bottom, having perforate walls, and an imperforate guard-plate arranged above the floor or bottom, substantially as specified.

4. In combination with a street lamp, the perforated floor or bottom fitting against a perforated off-set in the frame of the lamp, and an imperforate guard-plate carried by said floor or bottom and engaging a horizontal flange above the plane of the perforations in the off-set, substantially as specified.

5. In combination with a street lamp, the double floor or bottom provided with perforations and fitting against a perforated off-set in the frame of the lamp, and an imperforate guard plate arranged above the plane of the perforations in said off-set, substantially as specified.

6. In combination with a street lamp, hav-

ing a fixed frame the relatively depressed floor or bottom, provided with a vertical spring-pressed operating rod, to normally hold the floor or bottom in its operating position, substantially as specified.

7. In a street lamp, the combination with a fixed frame, of a depressible, spring-actuated bottom or floor, a vertical tubular operating rod connected to said floor or bottom and extended above the same and provided with a burner-tip, and a flexible coupling connecting the lower end of the operating rod with the line pipe, substantially as specified.

8. In a street lamp, the combination with a fixed frame, of a depressible, spring-actuated floor or bottom, a tubular operating rod connected to said floor or bottom and extending through and above the plane thereof, and the flexible coupling R comprising jointed sections of pipe to connect the lower end of the tubular rod to the line pipe, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affix my signature in the presence of two witnesses.

CHARLES W. BODKIN.

Witnesses:
J. H. SIGGERS,
J. ULKE, Jr.