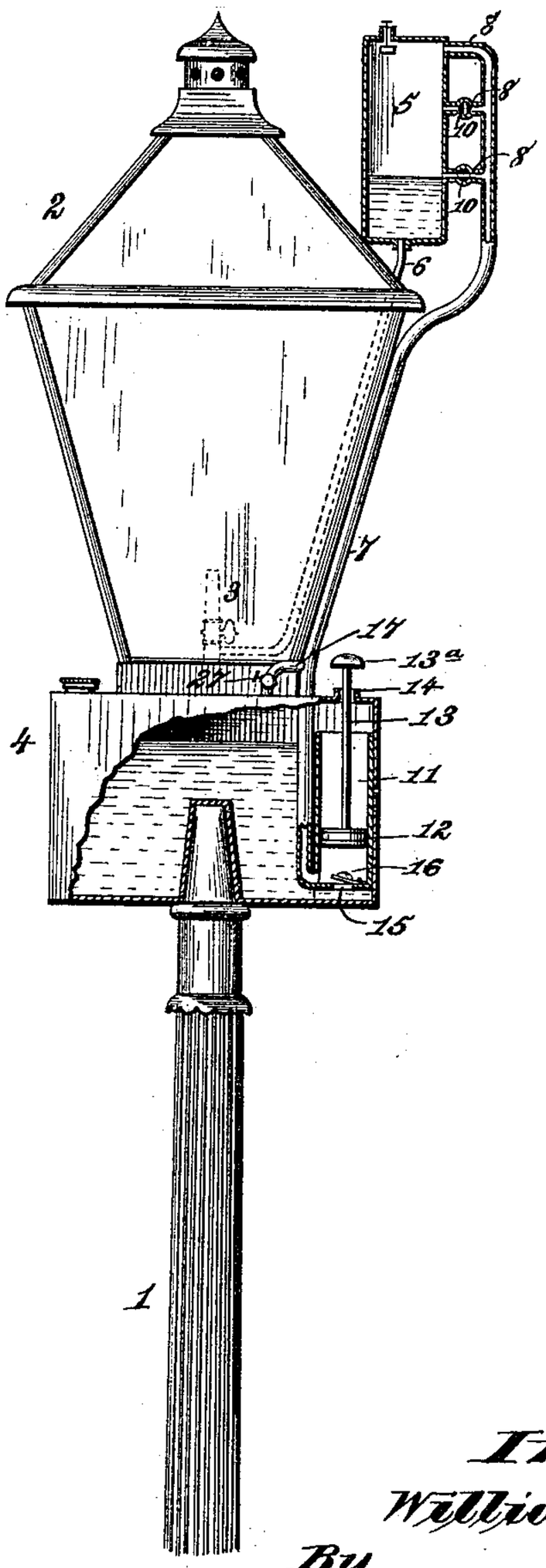
(No Model.)

W. P. BUTLER.

STREET LAMP.

No. 338,658. Patented Mar. 23, 1886.



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UNITED STATES PATENT OFFICE.

WILLIAM P. BUTLER, OF CHICAGO, ILLINOIS.

STREET-LAMP.

SPECIFICATION forming part of Letters Patent No. 338,658, dated March 23, 1886.

Application filed January 21, 1886. Serial No. 189,323. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BUTLER, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented new and useful Improvements in Street-Lamps, of which the following is a specification.

This invention relates to that class of street-lamps in which a supply of petroleum, naphtha, or other oil is contained within a reservoir arranged upon or formed in an ordinary lamp post or stand, said oil-reservoir having means for forcing the oil to the burner.

The object of the invention is to save labor in filling the reservoir which feeds the oil to the burner, to prevent wastage in such filling operation, to provide an improved means of automatically controlling the supply of oil to the feed-reservoir, and to provide a simple and efficient construction and arrangement of parts designed to overcome certain defects possessed by oil street-lamps heretofore devised.

The object of my invention I accomplish in the manner and by the means hereinafter described and claimed, reference being made to the accompanying drawing, in which the figure represents an elevation of a street-lamp with the lower oil-tank and upper feed-reservoir mounted thereon, and showing an ordinary piston-pump for forcing the oil from the oil-tank into the feed-reservoir.

The reference-numeral 1 designates an ordinary lamp post or standard, which is surmounted by a glass or transparent lantern, 2, containing a suitable burner, 3, adapted to burn oil or a liquid illuminating agent. A reservoir-tank, 4, adapted to hold enough oil for several nights' burning, is arranged beneath the burner or lantern, and is in the construction shown in the drawing, provided with a bottom socket, which receives the upper end of the lamp-post. This reservoir, however, may be formed in the post itself, the latter being enlarged for such purpose, and when this is the case the lantern is supported directly on the post. At a suitable elevation above the burner is arranged a feed reservoir or chamber, 5, which is made of such a size as to hold enough oil for a night's consumption. This reservoir or feed-chamber 5 is provided with a bottom discharge-tube, 6, which leads to the burner-tube 3, and supplies oil to the same. A vertical pipe, 7, leads from the reservoir-tank to the elevated feed-chamber, and has several horizontal branches, 8, which lead into said feed-chamber, as is clearly seen in the drawing. The uppermost branch of the feed-pipe communicates with the top of the feed-chamber, and the other branches lead into said chamber at different points between the top and bottom thereof. The lower branches of the feed-pipe—two in the present instance—are provided with stop-cocks 10, which can be opened or closed to establish or close communication between the feed-pipe and feed-chamber and maintain different levels of liquid or oil in the latter.

The feed-pipe is in the construction shown in the drawing led into the bottom of the working barrel or cylinder 11 of a pump, which is inclosed within the reservoir-tank, and contains an ordinary plunger, 12, the rod 13 of which has a hollow cap-piece, 13^a. When the plunger is in its lowermost position, this cap 13^a fits over the opening 14 in the reservoir-tank and prevents the entrance of moisture or foreign matters into the same. The bottom of the working-barrel 11 of the pump has an opening, 15, guarded by an upwardly-movable valve, 16, which opens when the piston is raised to allow oil to enter the working-barrel 11, and closes when the piston makes its downstroke to force the oil to the elevated feed reservoir or chamber.

Instead of the plunger-pump, I may use an air-pump, which will force the oil into the reservoir by atmospheric pressure on the top of the oil in the reservoir-tank. The feed-pipe 7 is also provided with a short pipe, 17, which communicates therewith and with the top of the reservoir-tank, and contains a suitable stop-cock, 27.

The operation of the lamp has been incidentally traced out in the foregoing description of its construction, but it should be added that when the pump is set in action, and the valve of the lower branch of the feed-pipe is opened, the oil will be made to stand in the feed-reservoir at the level of said branch pipe, such oil being then sufficient, say, for four hours' burning, after which the light would go out. When the cock in the lower branch is closed and the one in the middle branch is

opened, the oil will be caused to stand at the level of said middle branch and supply oil to the burner for a period of, say, eight hours. When, however, both the cocks in the branches of the feed-pipe are closed, the oil will rise in the elevated feed-reservoir to the top of the same, and close the air-vent opening 22 in the latter by a float-valve, 23. Thus the entire capacity of the feed-reservoir will be sufficient to hold enough oil for twelve hours' burning.

In order to allow the piston to descend in the pump-cylinder after the feed-reservoir has been properly filled, it is only necessary to establish the communication between the feed-pipe and the reservoir-tank by opening the cock 27 in the pipe 17, when the oil in said feed-pipe will flow back into the reservoir-tank.

Referring to the advantages possessed by a lamp constructed according to my invention, it may be stated that the labor of filling is reduced to a minimum, the labor of extinguishing the lamp is entirely obviated, the wastage from filling and from carrying the oil about in the barrel is the least possible; and, finally, the amount of oil used each night being the same, there can be no stealing by the lamp-lighter.

What I claim is—

1. The combination, with a street-lamp, a reservoir-tank, and an elevated feed-tank having a discharge-tube connecting with the lamp-burner, of a feed-pipe connected at its lower end with the reservoir-tank and having its other end extending vertically beside the reservoir and provided with a series of lateral branches placed one above the other and communicating with the reservoir, said branches having stop-cocks, substantially as described.

2. The combination, with a street-lamp, a reservoir-tank, and an elevated feed-tank having a discharge-tube connecting with the lamp-burner, of a pump, a feed-pipe connected at its lower end with said pump and having its other extending vertically along the feed-tank and provided with a series of branches having cocks and communicating with the feed-tank at different heights, and a branch having a valve and leading from said feed-pipe into the top of the reservoir-tank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM P. BUTLER.

Witnesses:
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