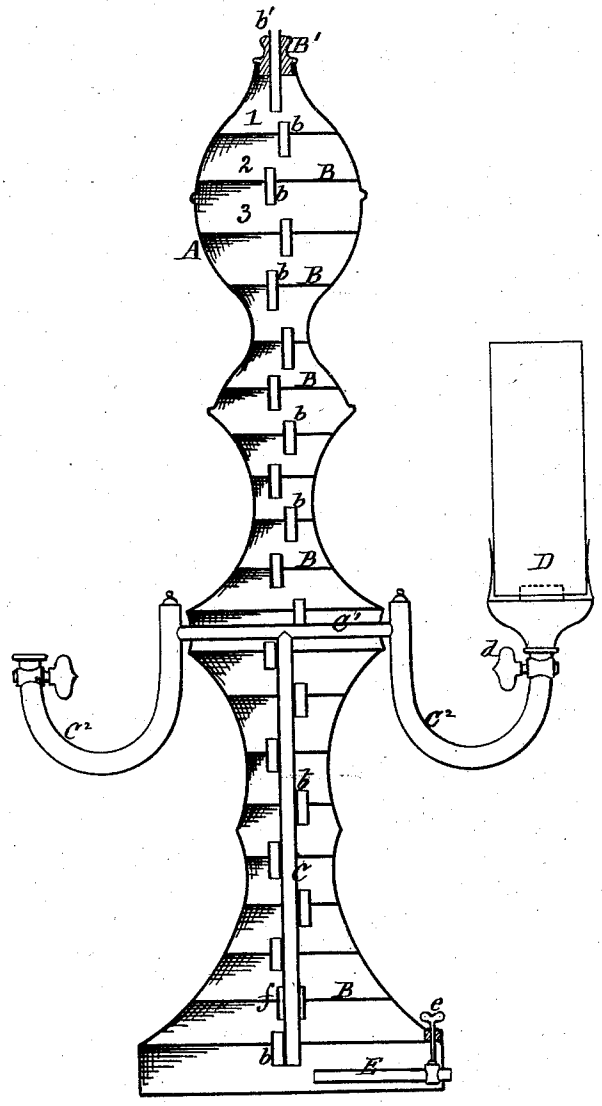
W. W. AUSTIN.
LAMPS FOR BURNING NAPTHA GAS.

No. 194,121. Patented Aug. 14, 1877.



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WILLIAM W. AUSTIN, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN LAMPS FOR BURNING NAPHTHA-GAS.

Specification forming part of Letters Patent No. **194,121**, dated August 14, 1877; application filed July 18, 1877.

To all whom it may concern:

Be it known that I, WILLIAM W. AUSTIN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Lamps for Burning Naphtha-Gas; and that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which the improved lamp is represented in vertical section.

My invention relates to lamps for burning naphtha-gas, in which the liquid naphtha is contained in a reservoir, and its surface is exposed to a continuous current of air, that thus becomes loaded with the vapor of the hydrocarbon, and is then conducted to the burner. Lamps of this class are generally too cumbersome and unsightly to submit a large surface of the liquid to the action of a current of air. Another defect in such lamps is due to the readiness with which naphtha used in them will catch fire if spilled within a short distance of a flame, as when a lamp is upset, or otherwise.

The object of my invention is to remedy these defects.

It consists in forming within the body of the lamp a series of shallow reservoirs, placed one above the other, having short open tubes passing through the bottom of each, and extending downward a short distance more than they project above the bottom of each reservoir, so that none of the naphtha will escape from one reservoir to the other if the lamp should happen to be upset or turned upside down.

It also consists in said lamp provided with means for taking the air loaded with naphtha from the bottom of the lamp-stand, or from a point lower than the burner, through a pipe located within the lamp-stand, and issuing from it at or about the height of the burner.

It also consists in details of construction that will be described hereinafter.

In the drawings, A represents the shell of a lamp-stand, made of metal. This stand is formed in truncated, conical, or bell-shaped sections, united at their widest part by flanges or soldering. Each section is divided by horizontal partitions B, soldered all around to the inside, so as to be water-tight and form reservoirs for the naphtha.

Each partition B has a vertical pipe, *b*, open at both ends, extending under it a little more than the vertical pipe of the next partition under it extends upward, so that if the lamp should be upset the naphtha cannot reach the edge of the under pipe and flow in the next reservoir above it. These pipes *b* should be located centrally, or nearly so, through each partition, so that any rolling of the lamp will not change the level of the naphtha in its relation to the pipes and to safety from overflowing.

The top of the lamp-stand is closed by a cap, B′, either soldered on or screwed on with a suitable washer. It has a pipe, *b′*, through which the hydrocarbon can be introduced while filling the lamp, and through which the atmospheric air enters when the lamp is in use.

The pipe *b′* can be connected by a flexible tube to an ordinary gas-burner or gas-pipe, and gas be supplied to the lamp in place of atmospheric air.

Within the lower half of the lamp-stand is a vertical pipe, C, extending upward from the lower reservoir to any suitable height for the location of the burner. It is then bent at C^1, and issues from the lamp-stand, where it is connected, by the bent pipe or bracket C^2, to the burner D, which is, preferably, an Argand burner, the flow of gas being regulated by a cock, *d*, placed below the burner.

The operation of this lamp is as follows: The naphtha is poured in the lamp-stand at the top B′, and partly fills the first reservoir 1. Then it overflows through the pipe *b* to the reservoir 2, and partly fills it, until, in its turn, it overflows through its pipe *b* to the next reservoir, 3, under it, and thus each reservoir becomes, in succession, filled level with the top of its pipe *b* until it reaches the bottom of the stand, where any excess can escape through the overflow-pipe E when the cock *e* is left open while filling the lamp, or immediately after it is filled.

The pipe C may pass through the overflow-pipes, as at *f*, made of suitable size for the purpose, or through independent sleeves, extending upward and downward, as the pipes *b*.

By attaching a loop at the top of the lamp it may also be suspended as a gasalier.

Having now fully described my invention, I claim—

1. The body or stand of a lamp, formed with a series of shallow reservoirs placed within it, one above the other, each having a short tube passing through the bottom of said reservoirs, and extending downward slightly more than the tube of the next reservoir under it projects upward, substantially as and for the purpose described.

2. In combination with the stand of a lamp and its internal shallow reservoirs, placed one above the other, and connected as described, the pipe C, located within said stand, to carry the hydrocarbon gas to the burner from a point lower than said burner, substantially as described.

3. In combination with the stand A, partitions B, and pipes *b* and C within said stand, the overflow-pipe E and cock *e*, substantially as and for the purpose described.

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