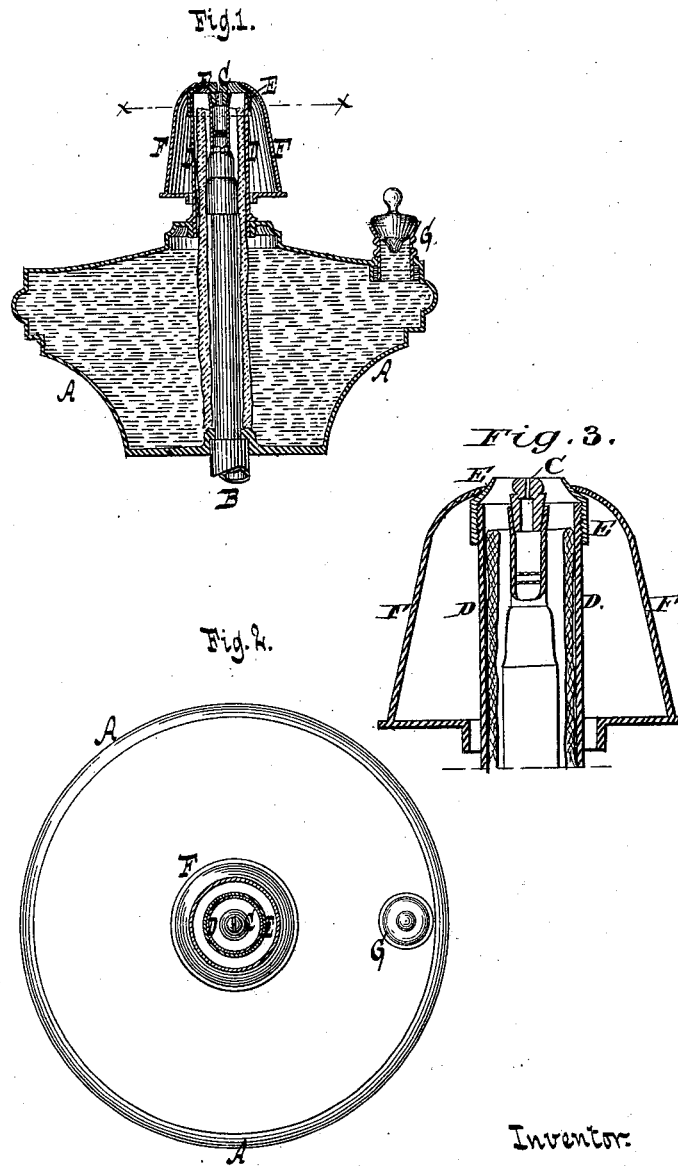


C. G. SPENGLER.  
Vapor Burner.

No. 202,066.

Patented April 2, 1878.



Witnesses.

Otto du Jaland.  
Hugo Rueggemann

Inventor.

Christian G. Spengler  
by  
Van Santvoord & Stauff

his attorneys.

# UNITED STATES PATENT OFFICE.

CHRISTIAN G. SPENGLER, OF HOBOKEN, NEW JERSEY.

## IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **202,066**, dated April 2, 1878; application filed February 26, 1878.

### *To all whom it may concern:*

Be it known that I, CHRISTIAN G. SPENGLER, of Hoboken, in the county of Hudson, and in the State of New Jersey, have invented a new and useful Improvement in Hydrocarbon - Vapor Burners, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical central section. Fig. 2 is a section in the plane *xx*, Fig. 1. Fig. 3 is an enlarged section on the same line as Fig. 1, omitting the oil-fountain.

Similar letters indicate corresponding parts.

This improvement consists in the combination, with an oil-fountain, of a gas-burner supported by a pipe which extends through the fountain, a wick-tube secured in the mouth of the fountain and rising to a level with the gas-burner, or nearly so, and a deflector resting on the top of the wick-tube, so that when the gas is lighted the oil which rises through the wick is evaporated, and the hydrocarbon vapors thus produced are thrown into the gas-flame by the deflector; also, in the combination, with an oil-fountain and gas-burner, of a shield which rests on the deflector, and extends downward and protects the wick-tube against the cooling influence of the atmosphere.

In the drawings, the letter A designates an oil-fountain. B is a gas-pipe, which passes through the fountain. This gas-pipe supports a burner, C.

To the mouth of the oil-fountain A is attached a wick-tube, D, which rises to a level with the burner C, or nearly so, and thus an annular space is formed about the burner C, which allows a wick to be introduced into the oil-fountain.

When the gas is lighted the burner C becomes heated, and the oil which has been absorbed by and has risen through the wick is converted into a hydrocarbon vapor. To insure burning of this vapor I provide a deflector, E, which is placed on the top of the

wick-tube D, and said deflector, being bent into a form like that shown in Fig. 1, throws the hydrocarbon vapors into the gas-flame, and thus causes them to be fully consumed.

In order that the wick-tube D and deflector E may not become cooled by the outer air, and so condense part of the vapor, I provide a shield, F, which extends downward. This shield keeps off the air from the wick-tube D and deflector E, and thus none of the hydrocarbon vapor is lost.

In order that the oil-fountain may be easily filled, I provide a filler, G. This filler consists of a glass tube closed by a stopper or cork of any desired material.

The object of making the filler of glass is, that the person filling in the oil can tell when the fountain is filled to the desired height.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an oil-fountain, of a gas-burner supported by a pipe which extends through the fountain, a wick-tube, D, secured in the mouth of the fountain and rising to a level with the gas-burner, or nearly so, and a deflector, E, resting on the top of the wick-tube, so that when the gas is lighted the oil which rises through the wick is evaporated, and the hydrocarbon vapors thus produced are thrown into the gas-flame by the deflector, all combined substantially in the manner and for the purpose described.

2. The combination, with an oil-fountain, a gas-burner, and a wick-tube surrounding said gas-burner, of a shield, F, which rests on the deflector E, extends downward, and protects the wick-tube against the cooling influence of the air, all combined substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 25th day of February, 1878.

CHRISTIAN GEORGE SPENGLER. [L. S.]

Witnesses:

A. SPIES,  
E. F. KASTENHUBER.