P. KELLER.

Gas-Carbureter.

No. 216,191. Patented June 3, 1879.

Fig: 1.

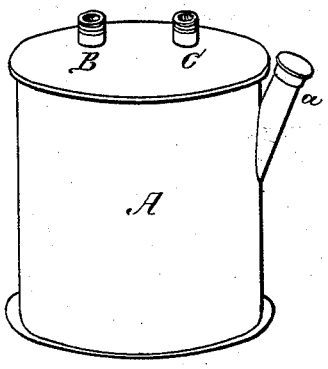



Fig: 2.

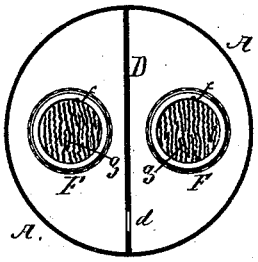
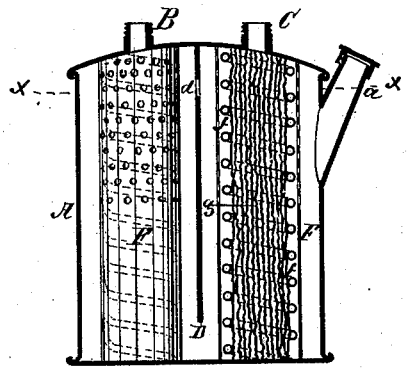



Fig: 3.




Witnesses.

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# UNITED STATES PATENT OFFICE.

PETER KELLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO CRAGIN BROTHERS & CHANDLER, OF SAME PLACE.

## IMPROVEMENT IN GAS-CARBURETERS.

Specification forming part of Letters Patent No. **216,191**, dated June 3, 1879; application filed December 14, 1878.

*To all whom it may concern:*

Be it known that I, PETER KELLER, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Gas-Carbureters, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings, and to the letters marked thereon.

The nature of my invention relates to improvements in apparatus to be interposed between the gas-meter and the burners in a building for the gas to circulate through, the said apparatus containing volatile hydrocarbon, the vapor of which will mix with and enrich the gas, increasing its illuminating power.

My invention therein consists in a peculiar wick adapted for use in carbureters, giving a large evaporating-surface, and not preventing the free circulation of the gas; and, further, in the combination of this wick with the peculiar carbureting-vessel, as fully hereinafter explained.

In the drawings, Figure 1 represents an exterior perspective view of the apparatus. Fig. 2 represents a sectional plan of the same on line *x x*, and Fig. 3 a vertical section through the center of the apparatus.

A is an air-tight cylindrical vessel having a spout, *a*, through which the same is supplied with volatile hydrocarbon, and which is hermetically closed by a screw-cap. B is the screw-threaded neck to couple with the pipe from the meter, and C is a similar screw-threaded neck connecting with the pipe which conducts the gas to the burners.

A partition, D, joined to the head and sides of the vessel, divides the same into two semi-cylindrical compartments of equal capacity, one of which communicates with the ingress-pipe coupling-neck B, and the other one with the egress-pipe coupling-neck C. The said partition D not reaching quite to the bottom, it leaves an opening, through which the liquid will distribute equally in both compartments. Said partition D also has a small hole, *d*, through near its top, which hole forms the passage for the gas from one compartment to the other, and its size is proportioned to the amount of gas required for the number of burners in the building. So far as the above description goes it forms part of an application for a patent already filed.

F F are two tubes, formed of cotton fabric, the uppermost portions of which are perforated with numerous small holes. These tubes are stretched each over a wire coil, *f*, which are secured in an upright position in about the middle of the two compartments, so as to be concentrically below the ingress and egress pipe coupling-necks B and C. The interior spaces of the wire coils *f* hold a series of cotton-fabric strips, *g*, which are suspended from the top and reach to the bottom of the vessel. This apparatus being connected between the meter and the pipe conducting the gas to the burners, and being filled with volatile hydrocarbon to about three-quarters of its capacity, the cotton tubes F and the internal strips, *g*, by capillarity, will absorb said oil, when the gas, by the pressure from the gas-holder at the works, will enter through neck B into one of the cotton-fabric tubes F, where it will circulate through the insterstices between the strips *g*, whence it will escape through the perforations in tube F, and will fill the empty space in one compartment of the vessel A; thence it will pass through hole *d* into the other compartment of vessel A, and thence it will pass through the perforations of the other tube F, and through the interstices between the fabric strips *g*, and will escape through neck C into the several pipes leading to the burners; and while the gas circulates through the apparatus, it thus comes in contact with a large oil-evaporating surface, thereby causing said gas to become strongly impregnated with hydrocarbon, which will increase the illuminating power of the same to a high degree, so as to produce a stronger and more brilliant light with a largely-reduced consumption of gas.

Heretofore I have employed wicks made of raw cotton, which was packed to have a cylindrical shape, but which, after soaking with volatile hydrocarbon, would be impenetrable to the gas, which only was benefited by the external evaporating-surfaces of these wicks, while, with the use of cotton, flannel, or other

fibrous fabric, the evaporating-surfaces are largely increased without increasing the size of the vessel or of the wicks.

I am aware that it is not new to use strips of woven fabric in a carbureter to take up the hydrocarbon, and to distribute it over a large surface for evaporation by the passing gas, and therefore I do not claim the same, broadly; and I am also aware that it is not new to pass gas or air through a carbureting-chamber partly filled with liquid hydrocarbon, and in contact with wicks which absorb and raise the hydrocarbon, and present it in a distributed form to be evaporated and taken up by the gas or air.

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

1. In a carbureter, a carbureting-wick composed of a spiral wire coil, *f*, a tube, F, of woven fabric, inclosing the wire coil, and perforated at its top, and the vertical strips *g*, of woven fabric, substantially as described and shown.

2. The vessel A, having necks B C, and partition D, provided with hole *d*, in combination with the vertical wicks covering the neck-openings, and composed of wire coils *f*, surrounded by woven-fabric tubes F, and filled with woven-fabric strips *g*, constructed and arranged substantially as described and shown.

PETER KELLER.

Witnesses:
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