D. BICKFORD.

Carbureter.

No. 162,523. Patented April 27, 1875.

Fig. 1.

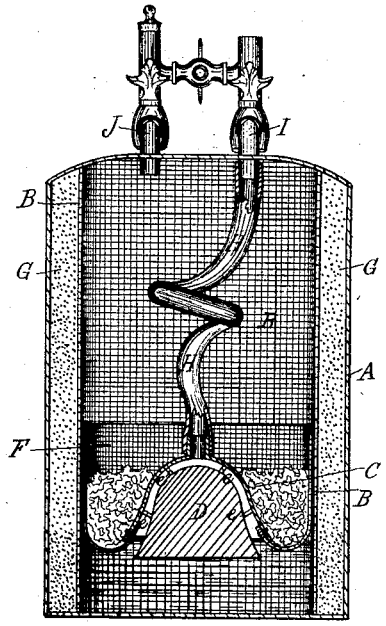


Fig. 4.

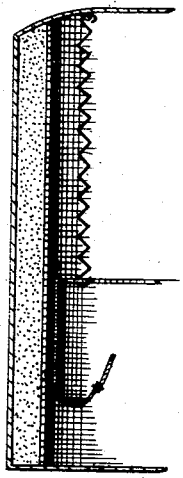


Fig. 3.

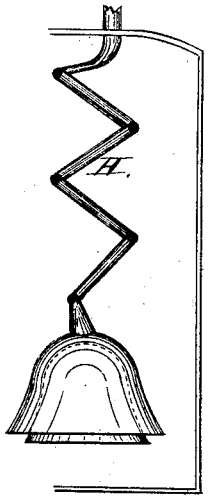
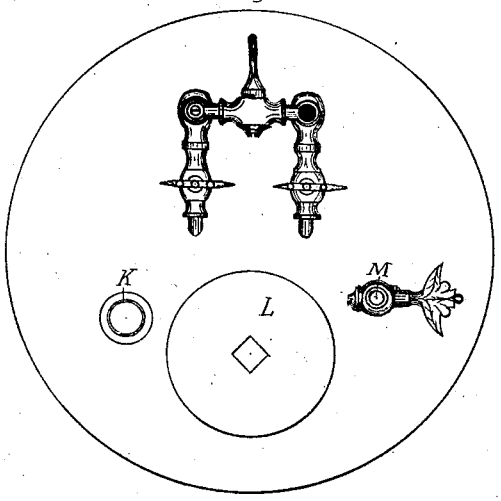


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

DANA BICKFORD, OF NEW YORK, N. Y.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **162,523**, dated April 27, 1875; application filed April 8, 1875.

To all whom it may concern:

Be it known that I, DANA BICKFORD, of the city, county, and State of New York, have invented new and useful Improvements in Carbureters; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My present invention is an improvement on my patent No. 51,128, dated November 28, 1865. In the construction shown in that patent I employed, among other things, a closed vessel, and within this vessel an inverted bell or cup, secured to a rigid tube which extended upward through a stuffing-box in the cover of the vessel.

My present invention, which is also designed for carbureting street-gas or any other gas or atmospheric air, consists in having an open-work, reticulated, or perforated cage or basket connected to and moving up and down with a buoyant bell, this cage containing an absorbent material, the arrangement being such that gas, in passing out from the bell, shall pass upward through the saturated absorbent. It further consists in connecting the buoyant or floating bell with the inlet by means of a jointed or elastic tube, which will permit the free rising and falling of the bell as the quantity of liquid is diminished or increased; and it also consists in providing the vessel, if desired, with an open-work, perforated, or reticulated lining, between which and the outer wall of the vessel is left a space to be filled with absorbent material.

In the drawing, which represents an apparatus illustrating my improvements, Figure 1 is a vertical section. Fig. 2 is a top view, and the other figures show modifications.

A is the vessel; B, an open-work lining; C, the inverted bell, underneath which is attached a buoy, D, by any convenient means, such as straps *e*, the buoy serving to keep the bottom of the bell upon or but slightly above the surface of the gasoline or other hydrocarbon employed. The bell is connected at its bottom to the open-work cage or basket F, which may be made of wire gauze or other material which will permit liquid to pass through it, this cage being supplied with any appropriate absorbent material, such as sponge, cotton, wool waste, &c. In the space G, provided the lining B be used, I place an absorbent material. A tube, H, connects the stationary inlet cock or tube I (for the admission of street or other gas or air) with the bell C, and this tube H I make in any well-known manner which will admit of the ready rising and falling of the bell as exigencies may require—as, for instance, of any suitable flexible material, as shown in Fig. 1, or of metal, with a series of easy-working joints, as shown in Fig. 3. J is the outlet for the carbureted gas or air. K represents an indicator, which may be of any desired construction, and connected, if preferred, to a bell, clock, or dial. It is arranged to be automatically operated as the vessel or receiver is filled, to indicate or signalize when it is filled.

The gas or air, when introduced through the tube and its bell, passes down the space between the bell and its buoy, and then, escaping, rises through the meshes at the bottom of the cage, and into and through the absorbent contained therein, becoming highly charged in its passage, and thence rising into the upper part of the vessel, ready for exit and consumption through the tube J.

The absorbent G, presenting, as it does, a very extended surface, and being saturated, more or less, with the liquid, tends in a very high degree to charge the gas (or air, if air be used,) with the vapors of the hydrocarbon, provided it be not sufficiently charged in passing through the basket, and largely to increase the illuminating power.

To assist the proper floating of the bell and its buoy, coiled or other springs (see Fig. 4) may connect the top of the vessel with the bell or buoy or basket, exerting a tendency to lift it, and this will meet the condition of an increased weight of the basket when it contains a quantity of absorbent material larger than can be floated by the buoy. Instead of having these springs within the vessel, they may be on its outside and connect with the

buoy or bell by a wire or wires passing through stuffing-boxes in the top of the vessel.

L is a covered opening large enough to put in the hand to get access to the parts inclosed. M is a cock for filling or for a vent.

It is evident from the construction that I may use the absorbent either in the basket or in the space G, or in both, as preferred.

I claim—

1. The combination of the floating bell open at its bottom, the open-work cage or basket surrounding the same for holding the absorbent material, and the inlet-tube H, extending from the top of the carbureter to the top of the bell, as and for the purposes set forth.

2. The combination, with the float D and its bell C and gas-inlet, of the open-work lining B and absorbent G, for the purposes set forth.

3. In combination with the bell or basket, a spring or springs, exerting a gentle lifting action on the bell or basket, for the purpose set forth.

DANA BICKFORD.

Witnesses:

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