

M. BUELL.
 Apparatus for Carbureting Air and Gas.
 No. 203,702. Patented May 14, 1878.

Fig. 1.

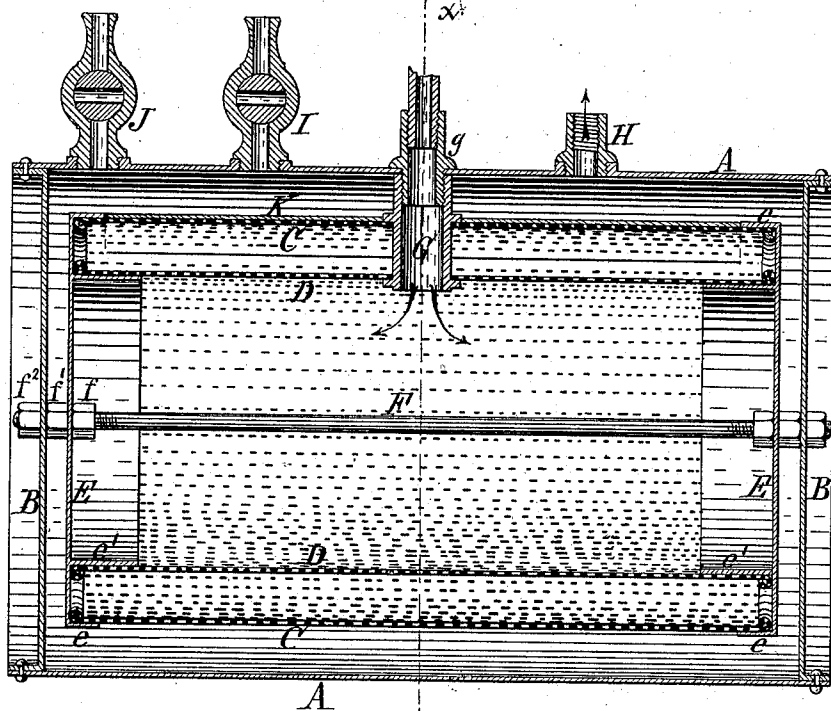


Fig. 2.

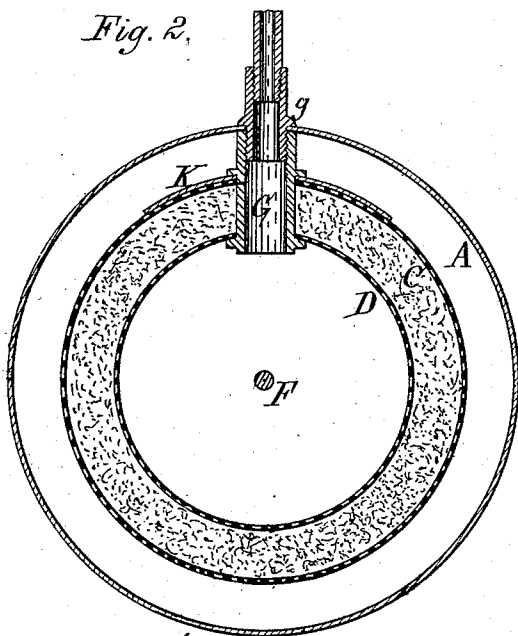
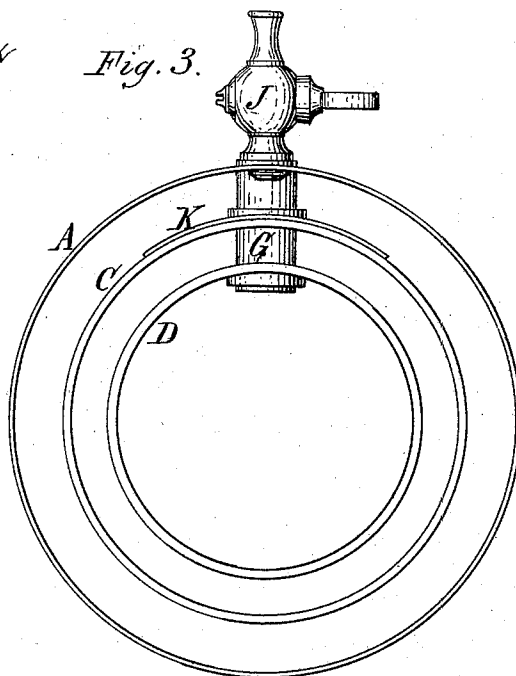


Fig. 3.



Edward Wilhelm }
 Chas. J. Buchheit } Witnesses

Madison Buell }
 Inventor

UNITED STATES PATENT OFFICE.

MADISON BUELL, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO WALTER B. MOORE, OF NEW YORK CITY.

IMPROVEMENT IN APPARATUS FOR CARBURETING AIR AND GAS.

Specification forming part of Letters Patent No. 203,702, dated May 14, 1878; application filed March 7, 1878.

To all whom it may concern:

Be it known that I, MADISON BUELL, of the city of Buffalo, county of Erie, and State of New York, have invented a new and useful Improvement in Devices for Carbureting Air or Gas, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to insure a thorough admixture of the air or gas with the hydrocarbon vapor.

I obtain this result by the use of the apparatus hereinafter described.

In the following specification, and in the drawing, like figures and letters represent like parts.

Figure 1 represents a longitudinal section of the apparatus. Fig. 2 is a cross-section on line *xx* of Fig. 1. Fig. 3 is an end view of the apparatus with the headings removed.

In Fig. 1, J represents the filling-cock; I, the vent. C represents a strainer or perforated cylinder. D also represents a second strainer or cylinder, of smaller diameter than the first, thus providing a space between the two of four inches, more or less. This space is filled with sawdust or other absorbent.

The cylinders C and D are kept in place by headings E and their annular flanges or rims *ee'*. The headings E are kept in place by the rod F running through the interior cylinder D, secured at the ends by the nuts *f* and *f'*. Around the cylinders C and D is a solid cylinder, A, which has headings B B, riveted and soldered at the ends. The rod F runs through the headings B and is secured by the nut *f''*. G is the inlet-pipe for the air or gas; H, the outlet. K is a solid portion of cylinder C, to prevent the passage of gas or air into the space between the cylinder C and A prior to its becoming saturated with the hydrocarbon.

It should be understood that the entire carbureter above described is inclosed in an exterior casing, and that between this casing and that of the carbureter there is a packing of non-conducting material, (plaster-of-paris or other substance,) to insure safety, freedom from accident, &c.

It is also understood that any of the usual

gages or jet-cocks are to be used for the purpose of ascertaining the height of the fluid, &c., to be attached as may be most convenient. The liquid should never be high enough to close the mouth of the inlet-pipe G.

The apparatus is operated as follows: Assuming it properly filled with hydrocarbon to within an inch, more or less, of the inlet-pipe G, the air or gas to be carbureted is admitted through the inlet-pipe G, and passes directly to the interior of the strainer or cylinder D, spreading over the entire surface of the hydrocarbon, where it becomes partly saturated with the latter. It is then divided by the strainer or cylinder D into minute or attenuated streams, thus facilitating the mechanical union of the air or gas with the hydrocarbon vapor, and in this condition, as aforesaid, it permeates and expands through the sawdust or other absorbent, where it is again further carbureted. It is then forced through the outer strainer or cylinder C. By passing through the second cylinder or strainer the union of the air or gas with the hydrocarbon is rendered more complete. As the hydrocarbon lowers in the strainers or cylinders A, C, and D, it exposes a fresh and larger surface of the absorbent to the action of the air or gas, thus furnishing an even and equal amount of the carbureting-vapor to the air or gas while any fluid remains in the apparatus.

It is not claimed that perforated cylinders of metal or wire-cloth having an inclosed packing are the essential elements of novelty in this case, for attempts have been made heretofore in various ways to adapt and use such parts or features in devices of this general character.

I claim—

1. In a carbureter, as described, the combination of perforated cylinders C and D with the heading E, having annular flanges *ee'*, and with rod F and nuts *f f'*, substantially as and for the purposes set forth.
2. The combination of perforated cylinders C D, having absorbent packing between them, with the imperforate plate K, substantially as and for the purposes set forth.
3. The imperforate cylinder A, having cen-

tral inlet G and exit H, heads B, rod F, and nuts *f f'* *f''*, combined with the perforated cylinders C and D, having an absorbent between and fitted with headings E, having flanges *e e'*, substantially as and for the purposes set forth.

4. In a carbureter, substantially as described, the central air or gas inlet or pipe G, by means of which the incoming current will

be impinged centrally and directly upon the hydrocarbon and equally saturated with the vapor thereof, in combination with perforated cylinders C and D and plate K, substantially as set forth.

MADISON BUELL.

Witnesses:

JAMES C. STRONG,

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