

GEORGE W. COLEMAN.

Improvement in Gas-Carbureters.

No. 126,024.

Patented April 23, 1872.

Fig. 1.

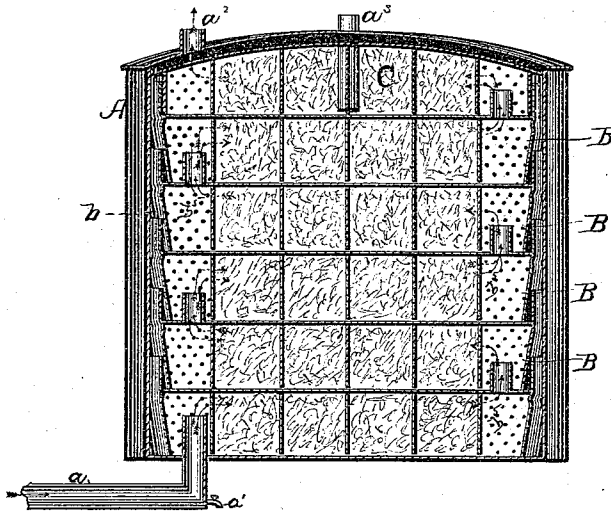


Fig. 2.

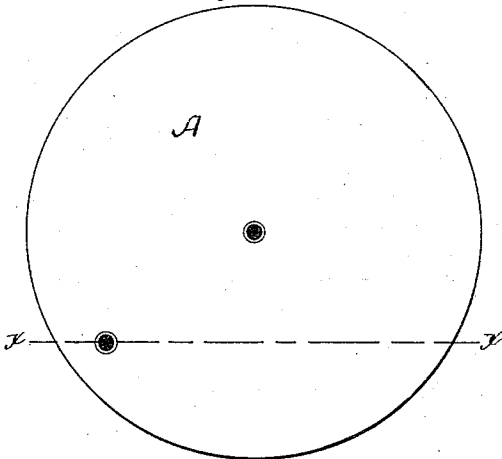


Fig. 3.

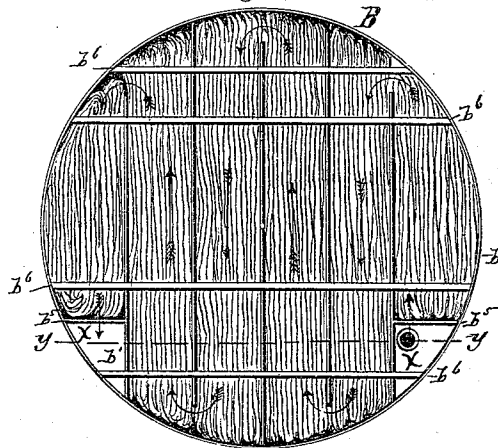
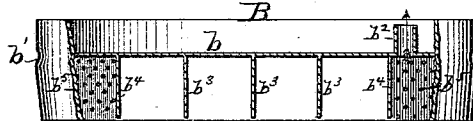


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE W. COLEMAN, OF KALAMAZOO, MICHIGAN.

IMPROVEMENT IN GAS-CARBURETERS.

Specification forming part of Letters Patent No. 126,024, dated April 23, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, GEORGE W. COLEMAN, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Gas-Carbureters; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to that class of carbureters which are provided with a series of pans located one over the other; and consists in certain details of construction by means of which a complete, simple, and effective carbureter is obtained.

In the drawing, Figure 1 represents a vertical sectional elevation of my improved carbureter; Fig. 2, a plan view; Fig. 3, a plan view of one of the pans reversed; and Fig. 4, a sectional elevation of one of the pans.

To enable others skilled in the art to make and use my invention I will now proceed to describe fully its construction and manner of operation.

The carbureter may be generally described as follows: It consists of an outer case of any suitable material, inclosing a series of pans, located one over the other, the pans being surrounded with suitable fibrous material for taking up the gasoline, and with suitable openings for receiving and discharging the gas. The outer case is provided with a suitable supply-pipe for conveying the air to be treated from a pump to the carbureter, and with a suitable discharge-pipe for conveying away the carbureted air to any desired point. It is further provided with a suitable opening for receiving the gasoline. The carbureter as a whole is designed to be located beneath the surface of the ground at any convenient point. The main features just described are believed to be common to this class of carbureters, and they do not form, therefore, the gist of this invention.

A represents the outer case, provided with the air-supply pipe *a*, having a cock, *a*¹, gas pipe *a*², and gasoline-supply pipe *a*³, as shown. Within the case is represented a series of pans, B B, of like construction, arranged one above the other, and having suitable openings to connect the same. Each pan B is constructed as follows: *b* represents a rim, which may be cir-

cular in shape, or of other convenient form. *b*¹ represents the bottom plate, located above the horizontal center line of the rim, and provided with a tube, *b*², which does not extend up to the top of the rim, but terminates some distance below the upper edge of the latter, as shown. Below the bottom plate *b*¹, and at right angles thereto, is arranged a series of transverse diaphragms or partitions, *b*³ *b*³, the members of which are attached to opposite sides of the rim alternately, and extend nearly across the plate, as shown. By means of this construction the spaces or passages between the diaphragms are continuously connected with each other. The diaphragms *b*⁴ *b*⁴, next to the rim, are provided with a transverse perforated partition, *b*⁵ *b*⁵, by means of which the triangular chambers *x* *x* are formed, as shown. Within the continuous space formed between the diaphragms *b*² *b*³, and extending from the perforated partition *b*⁵ upon one side to its fellow upon the other, suitable wicking is packed so as to entirely fill the same, said wicking being secured in place by means of securing-strips *b*⁶, as shown. It will be observed that the wicking occupies the greater part of the pan—that is, that the height of space which it fills is much greater than that part of the pan above the bottom plate. The transverse diaphragms are so arranged that one of the chambers *x* is located beneath the tube *b*², by which means a connection is made from one pan to another through the tube, the perforated partition, and continuous space about the transverse diaphragms, into the other chamber *x*, into which the tube of the pan below projects.

The pans are set together, one over the other, any proper number being employed, the lower edge of the lower pan being caused to rest upon the bottom of the outer case, its chamber *x*, that communicates with the spaces about the transverse diaphragms, being placed over the supply-tube connecting with the air-pump. The next pan above has its lower edge resting upon the bottom plate *b*¹, with its chamber *x*, that communicates with the passages about the diaphragm, over the tube *b*² of the lower pan; and in this manner the whole series is arranged.

The upper pan is provided with a cover, C, arranged below in a similar manner to the lower portions of the pans proper, and provided with suitable openings for discharging the carbu-

reted air and receiving the gasoline. When thus arranged gasoline is poured into the central supply-pipe a^3 at the top of the case, as shown. As it enters the case it passes through the cover C into the first pan proper, which it fills until the top of the tube b^2 is reached, when it runs over into the pan below, and from thence in a similar manner, in succession, to the pans below.

When the bottom of the case is filled so that the top of the tube is reached, the gasoline overflows into the pipe connecting with the air-pump and discharges through a suitable cock provided for that purpose. When the supply of gasoline reaches this point it is, of course, cut off, as this is evidence that the carbureter is filled and ready for operation. When operated, the air from the pump is forced through the bottom of the case into one of the chambers x of the lower pan, through the perforated partition and the passages formed by the diaphragms b^3 to the other chamber x , and from thence up through the tube into the next pan, and in a similar manner through the series.

It will be observed that the spaces between the bottom parts of the pan are completely filled with wicking, (excepting the chambers x ,) the lower portions of which (that is, all below the upper edge of the tube b^2) are submerged in the gasoline. It therefore follows that the air is forced through a nearly-contin-

uous mass of wicking thoroughly saturated with gasoline, and that, consequently, it is thoroughly charged in a short space of time.

If desired, two or more tubes may be used to connect the pans with each other.

By means of the construction described great compactness of form is obtained, as no portion of the carbureter is occupied by waste room.

The air is forced over the gasoline held in the air-tight spaces between the pans through the mass of saturated wicking, by which means it is finely divided and quickly carbureted.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The pan B, constructed specifically as described, with the rim b^1 , bottom b located above the center of the rim b^1 , tube b^2 , transverse diaphragms b^3 b^3 b^4 , and perforated diaphragms b^5 , the spaces between the diaphragms b^3 b^4 being completely filled with wicking and held by securing-strips b^6 , as described.

2. The combination of the series of pans B, constructed as described, with the cover C, constructed as described, for the purpose set forth.

This specification signed and witnessed this 8th day of September, 1871.

GEORGE W. COLEMAN.

Witnesses:

O. T. TUTHILL,
JOHN JAY KNIGHT.