G. REZNOR.
Air-Carbureter.

No. 209,076. **Patented Oct. 15, 1878.**

Fig. 1.

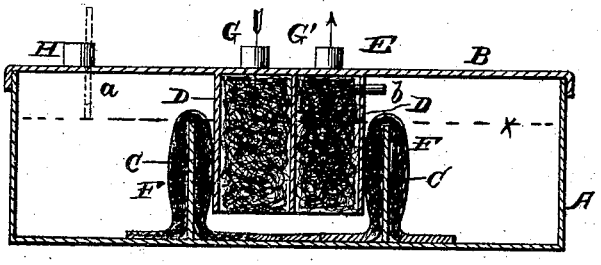


Fig. 2.

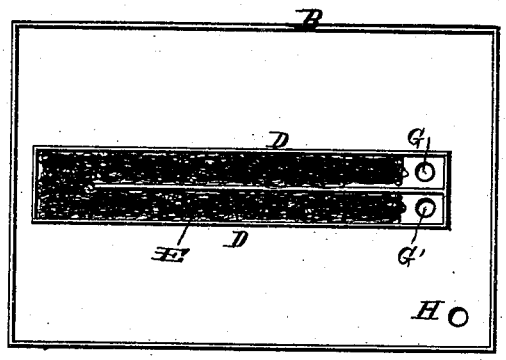
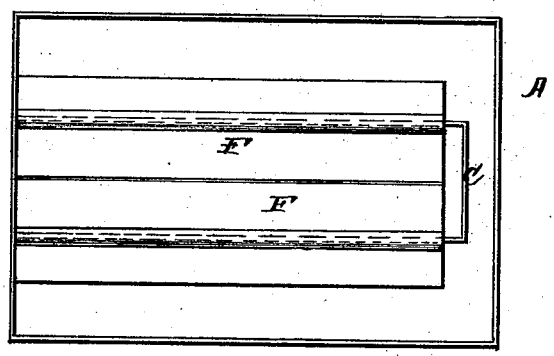


Fig. 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

GEORGE REZNOR, OF MERCER, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO RICHARD R. WIGHT.

IMPROVEMENT IN AIR-CARBURETERS.

Specification forming part of Letters Patent No. **209,076**, dated October 15, 1878; application filed August 23, 1878.

To all whom it may concern:

Be it known that I, GEORGE REZNOR, of Mercer, in the county of Mercer, and in the State of Pennsylvania, have invented certain new and useful Improvements in Air-Carbureters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of carbureters in which air is carbureted without the aid of artificial heat.

It is a well-established fact that in setting or burying the generators in the ground two very important steps toward perfection have been attained—first, absolute safety from danger arising from leakage, and, second, the most uniform temperature possible without the aid of artificial heat.

The nature of my invention consists in combining in an air-carbureter a pan having division-walls with wicking placed over them, a top with division-walls having sponge-filling, service and filling pipes, and vent, all as hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a transverse section of my improved carbureter. Fig. 2 is a bottom view of the top, and Fig. 3 a plan view of the bottom thereof.

The carbureter is a flat pan, A B, or tray made of any suitable material and of any desired dimensions. It consists of two parts—a top, B, and bottom A. The bottom or pan A is divided into two chambers by means of dividing-walls C C, which are about two inches less in height than the height of the pan. The top B has an air-passage formed by suspended walls D, that extend down to within about one-quarter of an inch from the bottom of the pan A, so as to allow fluid to pass under them.

The space between the walls D is filled with sponge E, and cotton wicking F is placed on the walls C of the bottom A. The top B is then placed and soldered on or otherwise packed and made air-tight before setting.

The space outside of the wall C in the pan forms the store-chamber for the carbureting-fluid, while the space inside of the walls D, filled with sponge, forms the evaporating-chamber. G and G′ are the service-pipes, and H is the filling-pipe.

a is a small vent-tube and filling-gage. *b* is a vent between the evaporating and store chambers.

The carbureter is filled through the pipe H, which extends to the top of the ground, until the vent-tube *a* indicates the fluid-line to be at *x*, which line should be about one-quarter of an inch above the walls C C, thus filling both the store and evaporating chambers to that level. Then air is introduced through the service-pipe G by any suitable means, and, passing through the sponge E in the direction indicated by the arrows, passes out at G′. No air is allowed to pass into the store-chamber until after having passed through the carbureting or evaporating chamber, at the top of which is the small vent *b*, admitting enough gas or charged air to equalize the pressure in both chambers, keeping the fluid-line at the same level in both chambers without affecting the gravity of the fluid in the store-chamber.

When the carbureter is in operation, the fluid between the walls D D is carried off by the air, the fluid-line at this point being lowered, and then fresh fluid begins to flow over the walls C by capillary attraction, keeping the fluid-line on the same level in both chambers until all is consumed. The cotton-wicking F acts by capillary attraction or force to convey fresh fluid into the carbureting-chamber constantly when in operation, and stopping instantly when the fluid reaches the same level in both chambers, or when not in use. By this construction I obtain an absolute feed, never requiring the attention of the operator, and never failing to act at the proper time. It cannot get out of order, and works equally well whether set in the ground or in an open vault, so far as feeding is concerned. When set in the ground it takes the greatest possi-

ble advantage of the uniform temperature of the earth, both winter and summer, and is absolutely safe.

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

In an air-carbureter, the combination of the pan A, with division-walls C, having wicking F placed over them, the top B, with division-walls D and sponge filling E, the service-pipes G G′, filling-pipe H, and vents *a b*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of August, 1878.

GEORGE REZNOR.

Witnesses:
J. J. McCARTHY,
H. H. ZEIGLER.