

J. GRAY.
Carbureters.

No. 147,256.

Patented Feb. 10, 1874.

Fig. 1.

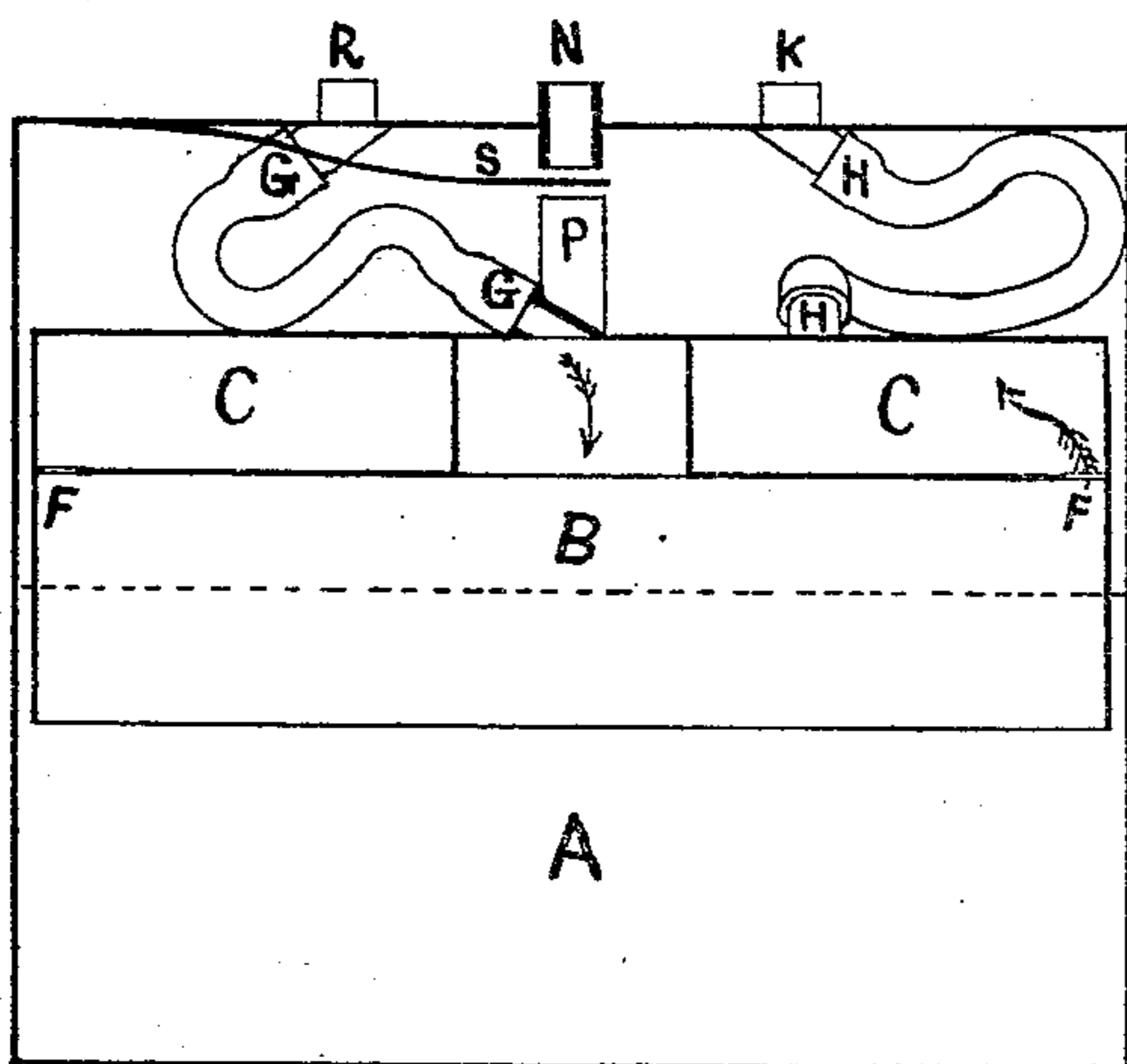


Fig. 2.

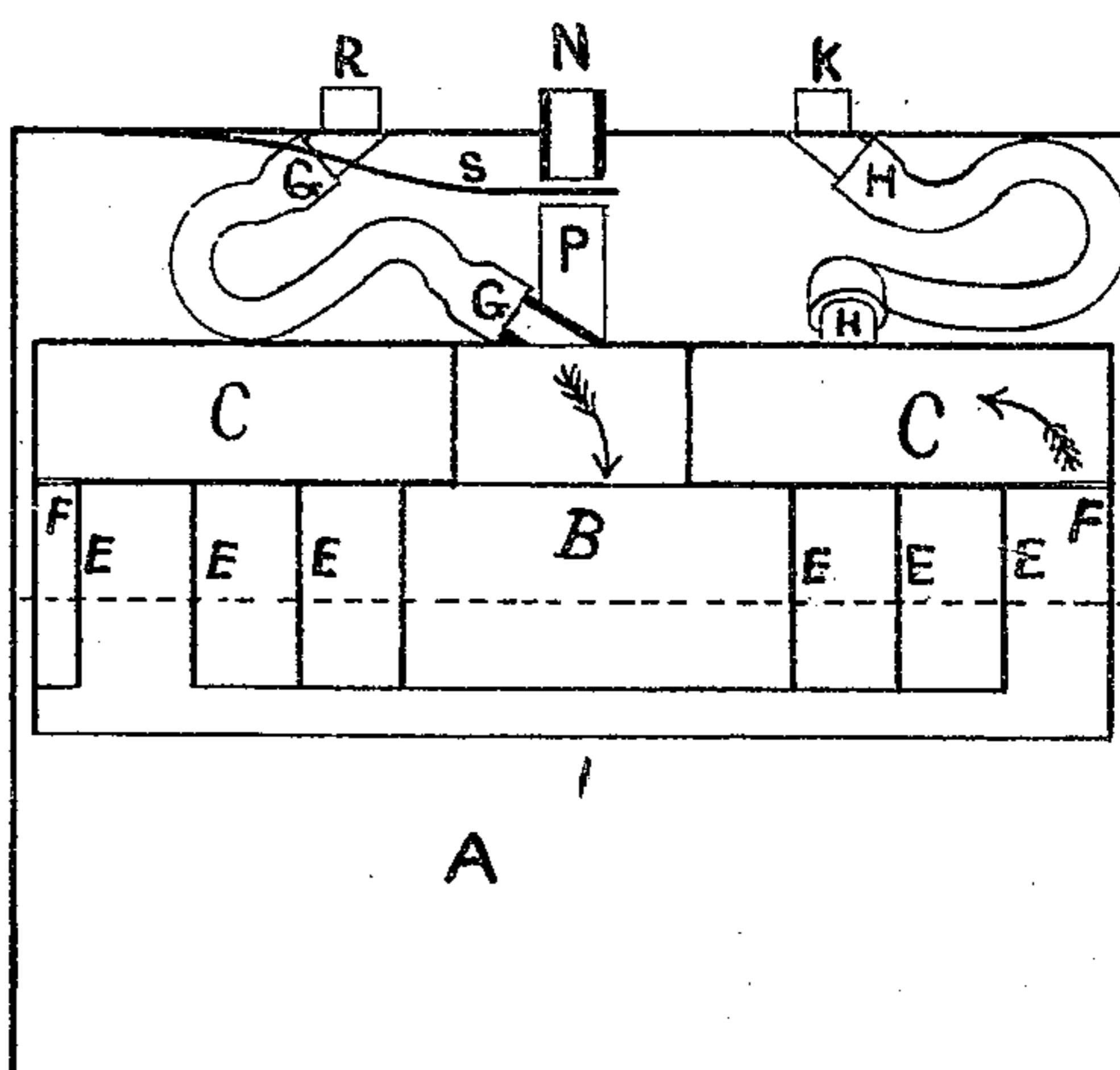


Fig. 3.

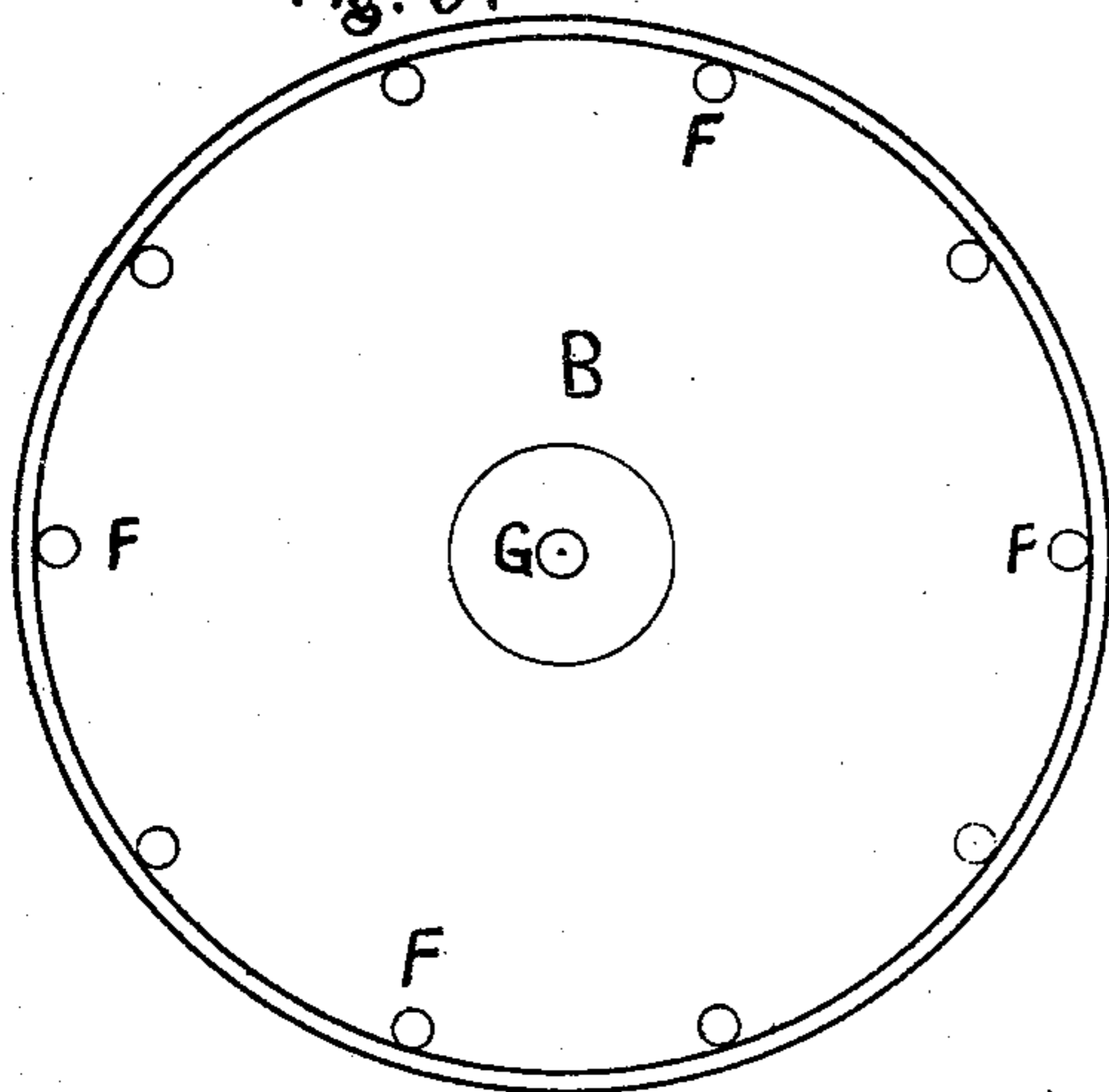
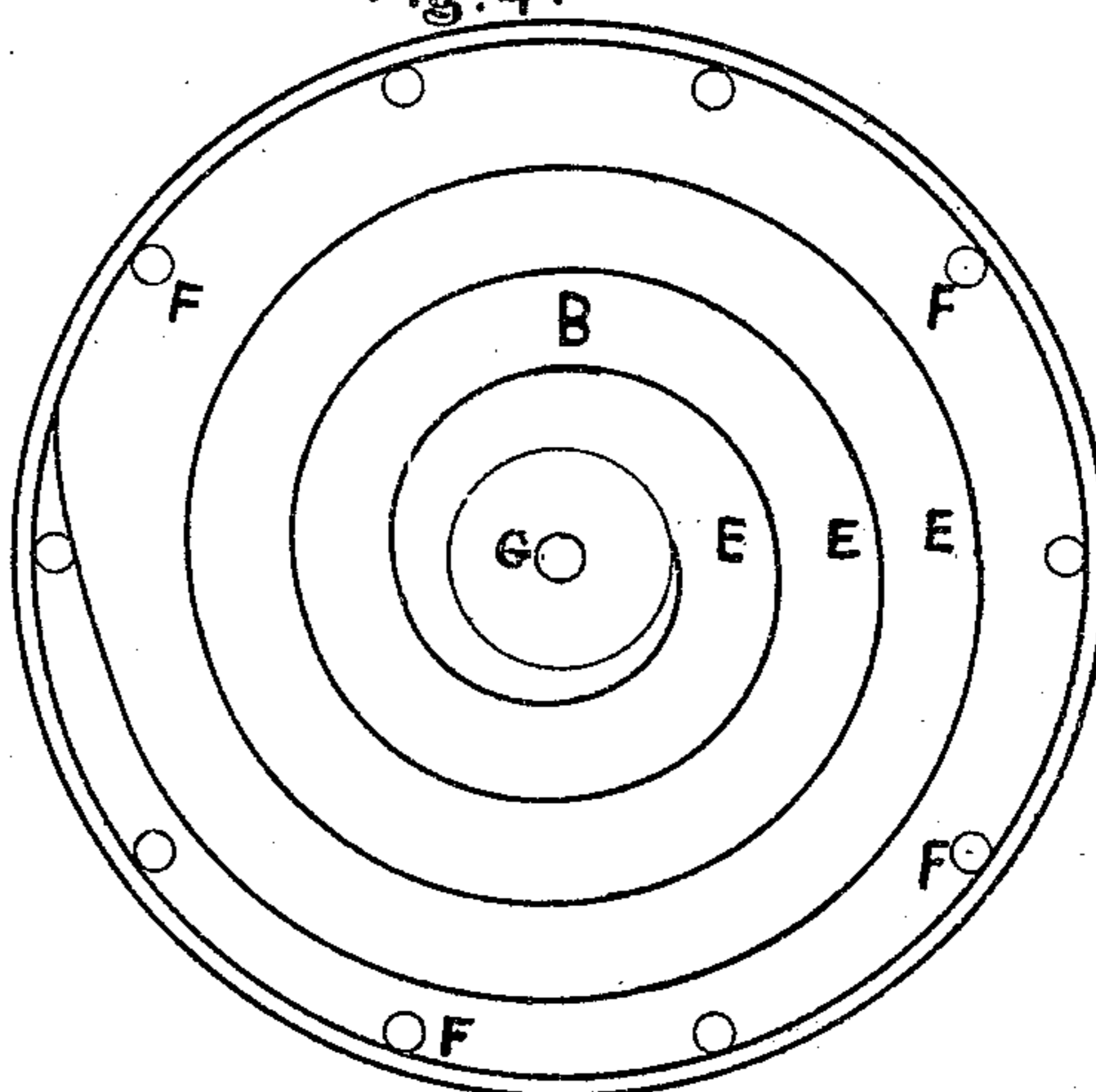


Fig. 4.



WITNESSES.

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JOSHUA GRAY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **147,256**, dated February 10, 1874; application filed January 10, 1874.

To all whom it may concern:

Be it known that I, JOSHUA GRAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Carbureters, of which the following is a specification:

The object of this invention is to take and use the carbureted gas direct from the chamber or gas-holder as fast as the gases are carbureted, and to prevent the gas from separating from the vapor of the oil. The gas in the machines, when taken from a tank or large space, will separate. The hydrocarbon or vapor from the oil will settle to the bottom, as it weighs four ounces to the cubic foot, and the coal-gas, being lighter than air and not having a circulation, will, by its lightness, rise to the top, and the vapor settle to the bottom and condense, as the vapor will not rise but about seven inches, unless it has a current to keep it in motion. For instance, if you make fifty light machines of the Dayton or other pattern, and fan the gas down the tube and over the oil, thence into a large tank or space above the deflector, and light only a part of the burners, there will not be current enough to keep the gases in circulation or completely carburet the gases; consequently the coal-gas will rise to the top, and the vapor or hydrocarbon will settle to the bottom and condense, and nearly as much coal-gas will be burned as without the carbureter.

My invention consists of an outer tank or vessel, which is partially filled with oil or gasoline, and provided inside with an adjustable disk or float, the upper chamber of which forms a gas-holder, provided with an inlet and an outlet pipe, which are made flexible by means of metal joints, which permit such gas-holder to rise and fall within the tank as the volume of oil or gasoline is increased or diminished within the same, being permitted to rise up when the oil is flowing in until a projection on the top of the gas-holder comes in contact with a valve and closes the same, so as to prevent a flow of oil or gasoline into the reservoir sufficient to check the inward passage of gas, and permitted to fall gradually as the oil or gasoline is taken up and consumed after mingling with the gas and passing out through outlet-pipe to the burner in the form of carbureted gas.

Figure 1 is a longitudinal section of a carbureter constructed according to my invention. Fig. 2 is a similar view, showing a modifica-

tion of the disk. Fig. 3 is a plan view of the under side of the disk and gas-holder. Fig. 4 is a similar view of the modification shown in Fig. 2.

A is the reservoir for holding the oil or gasoline, which is introduced through the pipe N, upon the top of the same. S is a valve, which is closed by the inward flow of oil raising the disk B, when the projection P strikes valve S and closes it against the lower end of pipe P.

The common coal-gas, being let in through inlet R, passes through the flexible pipe G G inside the disk B, where it comes in contact with the oil or gasoline, as shown by horizontal dotted lines; passing over the same, it absorbs or commingles the vapor or gaseous portion arising from the same; then it passes, through the small openings F F F, into the chamber or gas-holder C, and is conducted from said gas-holder or chamber through the flexible pipe H, and out through the pipe K to the burners, where it is consumed in the form of carbureted gas.

The scroll E E E, Fig. 3, shows a means of conducting a small flow of gas over a larger surface of oil to be carbureted than in the former method.

It will be understood that the flexible pipes G G and H H are to be made of metal with joints, so as to allow the free rise and fall of the disk and gas-holder inside of the reservoir A.

If desirable, the gas-inlet pipe may be omitted, and the gas allowed to pass directly into the chamber above the disk, and then through an aperture in or about the center of said disk, from whence it escapes by flexible tube H, and thus comes in contact with the carbureting fluid beneath, and rising into gas-chamber C, thereby consuming the vapor as fast as it rises by commingling with the same, thus preventing condensation.

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

The float or disk B, constructed with gas-chamber C and flexible pipe or pipes G H, in combination with a reservoir for containing the carbureting liquid, arranged and operating substantially as described.

JOSHUA GRAY.

Witnesses:

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