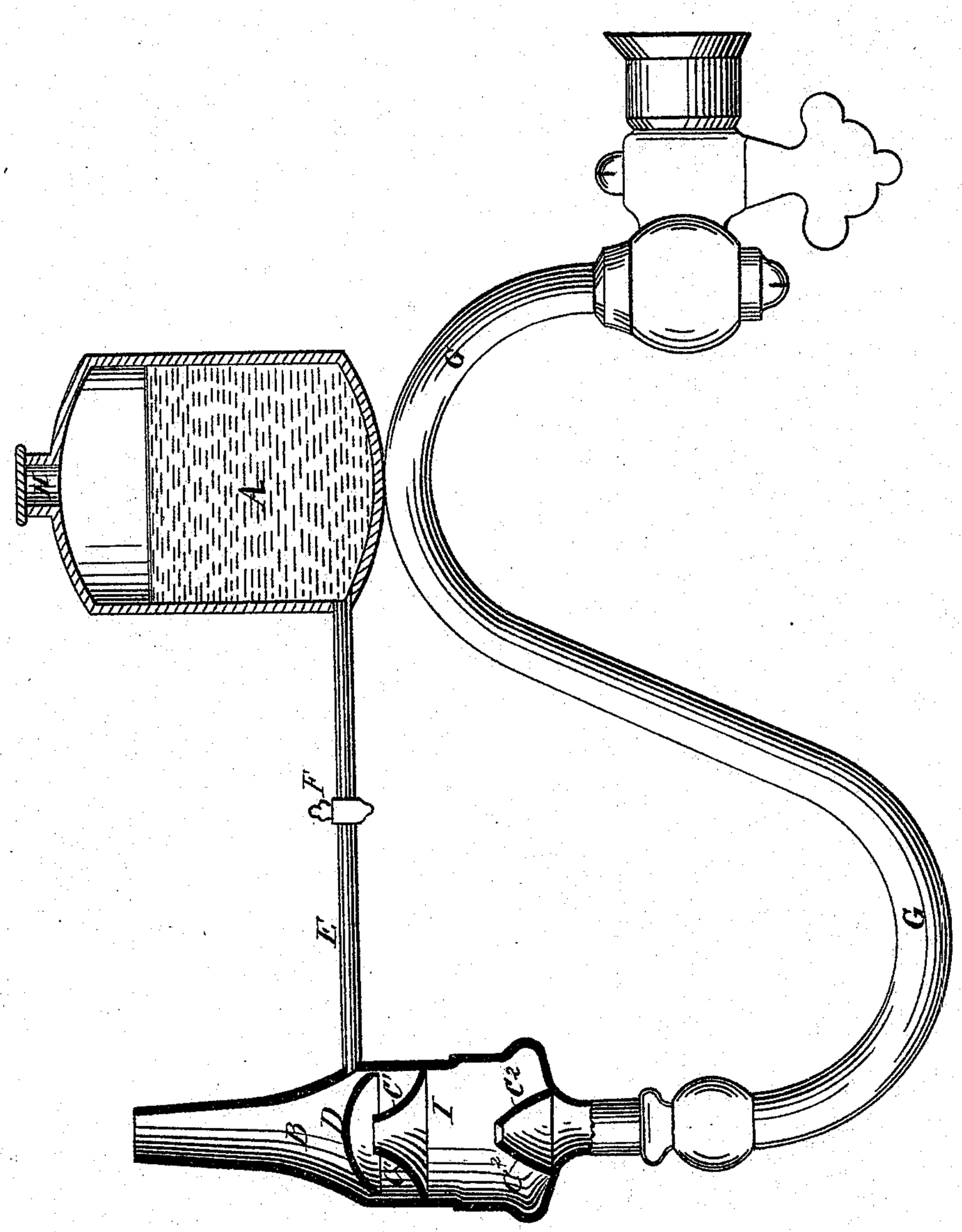
J. A. BASSETT.

Carbureter.

No. 39,541. Patented Aug. 18, 1863.



Witnesses:

John. R. Nicholy

Geo V B Appleton

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN A. BASSETT, OF SALEM, MASSACHUSETTS.

IMPROVED APPARATUS FOR CARBURETING GAS.

Specification forming part of Letters Patent No. **39,541**, dated August 18, 1863; antedated March 18, 1863.

To all whom it may concern:

Be it known that I, JOHN A. BASSETT, of Salem, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Apparatus for Carbureting Gas; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, which represents in section a view of my invention applied to a gas-fixture.

The nature of my invention consists in an arrangement for increasing the illuminating power of gas used for lighting, by means of which the hydrocarbon liquid used is supplied directly to the burner, and by the heat derived from the gas in burning is there evaporated and mixed with it. A reservoir of hydrocarbon liquid being placed in any convenient position, it is supplied by a small tube in a very fine stream, the quantity being proportionate to the amount required to enrich the gas. On the inside of the burner a small shelf or flange is placed below the inlet of the hydrocarbon for the purpose of retaining any overplus which may fail to be evaporated. A deflecting-plate is placed directly over this flange to cause the gas to spread out against the burner and more thoroughly carburet it.

The object of the invention is to overcome the difficulty of carbureting gas at low temperatures. The hydrocarbon being evaporated by the heat of the burner, a constant supply is furnished to the gas in the form of vapor under all conditions of temperature, rendering the carburation of the gas independent of these changes, which is a desideratum in exposed situations and during cold weather.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing, which is a sectional view of my invention.

The burner B, I prefer to make of brass, as the best conductor of heat, and I also prefer a burner having a chamber to give room for the expansion and heating of the gas. The reservoir of hydrocarbon liquid A is placed on the bracket G and connected with the burner B by the tube E, the supply being controlled by the stop-cock F. A screw-cap, H, is placed on the top of the hydrocarbon-reservoir for the purpose of filling it. Inside the burner are placed shelves or curved flanges C′ C² for the purpose of retaining any overflow of hydrocarbon liquid which may fail to be at once evaporated. The deflecting-plate D is placed over the flange C′ so as to cause the gas to impinge against the lower surface of it and spread out against the burner; and should any of the hydrocarbon have flowed into the flange C′ the gas is caused to come in direct contact with it, taking it up. The deflector D assists in heating the gas, thereby causing it to assist in evaporating the hydrocarbon. If a separate tip is used in the burner it should be made of brass or some equally good conductor of heat. The pipe E should be made very small in order that its appearance may not be objectionable, and because the amount of liquid required is very small. The stop-cock should also be small, for the same reason and for the better control of the liquid. It should be ground very carefully so as to be very tight, as the most of the hydrocarbons used for this purpose are very difficult to retain. If it is desirable, the flange C′ may be placed directly under the pipe E, so that the hydrocarbon when it enters the burner may be distributed around the circumference and be exposed to a larger evaporating-surface, or a number of these flanges or their equivalents may be used to accomplish the same result, in which case I should use a deflecting-plate over each flange, for the purpose before specified. The height of the pipe E may be varied where it enters the burner, according to the nature of the hydrocarbon liquid used, whether more or less volatile. If very volatile it may be placed in the position shown, or even lower, but if not so volatile, it should be placed nearer the top of the burner, where there is more heat. The deflecting-plate D rests upon a standard, which is supported by a perforated plate, I, which serves to divide and distribute the current of gas before it issues from the burner.

It is obvious that many changes may be made in the arrangement of the different parts of the apparatus without altering the nature of the invention. The position of the hydrocarbon-reservoir may be varied to suit convenience; but it should always be above the inlet of the pipe E into the burner.

No claim of novelty is made to the deflecting-plate, except for the distinct purpose specified.

I prefer to use, on account of economy, the hydrocarbon known as "petroleum-naphtha," but any liquid hydrocarbon may be used which is composed of volatile ingredients. Sufficient time should be given after lighting the gas to allow the burner to become heated before admitting the hydrocarbon liquid. Care should be taken to shut off the hydrocarbon before shutting off the gas so there may be as little as possible in the burner after the gas is shut off.

No claim of novelty is made to placing a reservoir of hydrocarbon liquid near a burner, as this device is old and well known.

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

The uniform carburation of gas under varying conditions of temperature by the direct application of the hydrocarbon liquid to the burner by the means shown, and the use, in combination, of the flanges C′ C² with the deflecting-plate D, or their equivalents, when used for this purpose, the whole arrangement operating together substantially as represented, and for the object set forth.

JOHN A. BASSETT.

Witnesses:

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JOHN R. NICHOLS.