

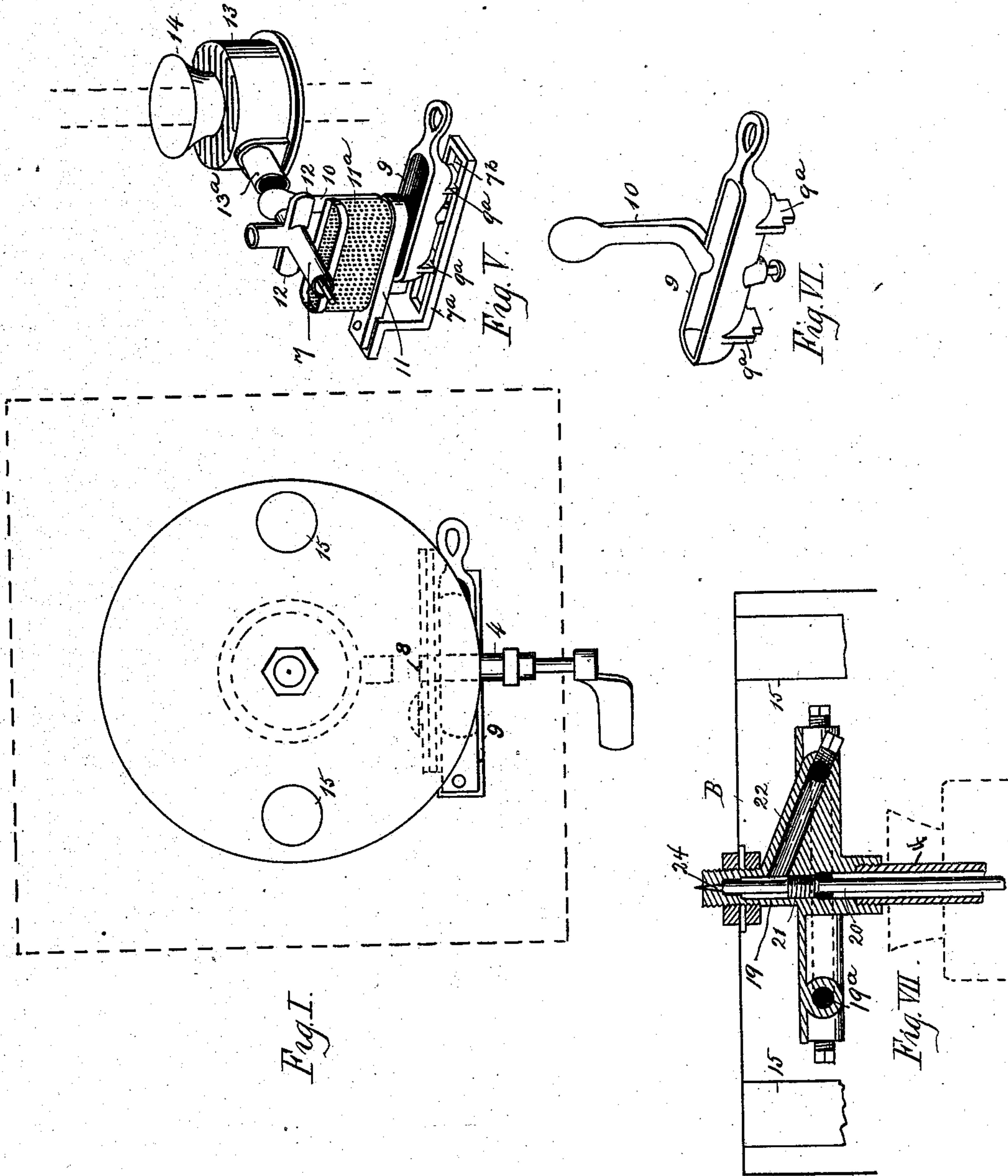
(No Model.)

2 Sheets—Sheet 1.

J. C. & H. J. FUHR.
CARBURETER.

No. 604,932.

Patented May 31, 1898.



Witnesses,
R. L. Millar
L. M. Adams

Inventors,
J. C. Fuhr
H. J. Fuhr
By J. D. Bailey, Atty.

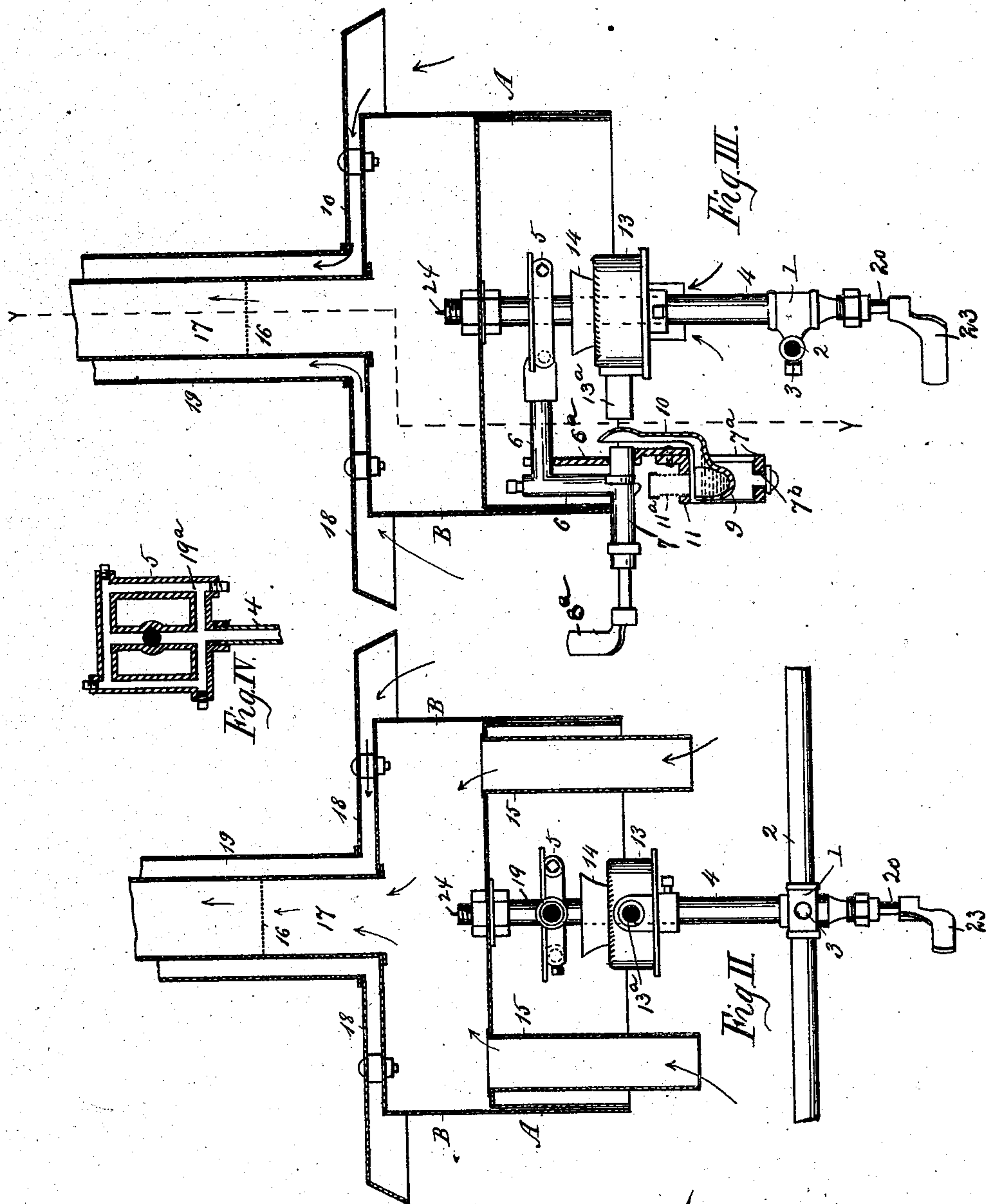
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By Bailey & Co.

UNITED STATES PATENT OFFICE.

JOHN C. FUHR AND HENRY J. FUHR, OF WILLIAMSBURG, OHIO.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 604,932, dated May 31, 1898.

Application filed July 28, 1897. Serial No. 646,207. (No model.)

To all whom it may concern:

Be it known that we, JOHN C. FUHR and HENRY J. FUHR, citizens of the United States, residing at Williamsburg, in the county of

5 Clermont and State of Ohio, have invented a new and useful Improvement in Apparatus for Producing Illuminating-Gas, which improvement is fully set forth in the following specification and accompanying drawings.

10 Our invention relates to apparatus for generating illuminating-gas from gasolene and other hydrocarbon liquids; and it consists in the novel construction and combination of parts hereinafter fully described and claimed.

15 In the accompanying drawings, Figure 1 is a plan view of a machine for manufacturing gas according to our invention. Fig. 2 is a sectional elevation. Fig. 3 is a similar view taken in a plane at a right angle thereto. Fig. 20 4 is a horizontal section of the generator. Fig. 5 is a detail perspective view of the initial and main burners. Fig. 6 is a detail perspective view of the sliding trough. Fig. 7 is a longitudinal sectional view of the generator.

25 In the said drawings the reference-letter A designates a metal cylinder open at the lower end and which forms a heating-chamber. This cylinder fits accurately on the lower end of a cylinder B, hereinafter more fully de- 30 scribed, which forms a mixing-chamber.

The numeral 1 designates a coupling from which extends a pipe 2, the ends of which are connected with an elevated gasolene-tank. (Not shown.) The coupling is provided with 35 a stop-cock or valve 3 for turning on or cutting off the supply. Also connected with said coupling is a vertical pipe 4, which leads directly to a gas-generator 5, located in the cylinder A. Connected with the generator at 40 one side is an angle-pipe 6, the lower end of which is connected with a horizontal pipe 7, open at its inner end and provided with a needle-valve 8, provided with a crank 8^a, by which the open end of said pipe may be 45 closed. Connected with the pipes 6 and 7 is a vertical plate 6^a, to which is secured a horizontal bracket 7^a, formed with a slot or opening 7^b.

50 The numeral 9 designates a sliding trough provided with downwardly-extending lugs 9^a, the lower ends of which are notched and work in the opening or slot 7^b. This trough, which

forms the initial burner at one side, is provided with an upwardly-extending spoon-shaped arm 10, channeled in its front side, or 55 that side adjacent to the inner end of pipe 7. Secured to the bracket 7^a is a plate 11, having a longitudinal opening therein and provided with a chimney 11^a, of wire-gauze or perforated metal. 60

The numeral 12 designates lugs for dividing the flame from the trough, as hereinafter described.

The numeral 13 designates the main burner, through which the tube 4 passes, but does 65 not communicate with, this burner consisting of a cylindrical shell formed with perforations in its upper end and provided with a pipe 13^a in line with pipe 7. It is also provided with a spreader 14 for distributing the 70 flame beneath the generator.

The cylinder B is provided with air-inlet pipes 15 and an outlet-pipe 17, by which the gas, mixed with a suitable quantity of air, may be conducted to suitable burners. This pipe 75 17 is provided with a perforated diaphragm 16 for insuring the proper mixing of the gas and air. In order to obviate the tendency of the gas to condense, we provide a metal cover 18, which conducts the warm air radiated 80 from the apparatus up around the pipe 17.

The generator 5 consists of a rectangular casing with which pipe 4 communicates, and also provided with a pipe 19, connected with 85 the upper end.

The numeral 19^a designates a passage by which gasolene from pipe 4 escapes into the generator.

The numeral 20 designates a valve-stem, screw-threaded at 21 and located in the pipe 4. 90 This stem at its lower end is provided with an operating-crank 23 and at its upper end with a needle-valve 24, which projects up into cylinder B.

The numeral 22 designates an inclined gas- 95 passage leading from the generator to the pipe 19 above the screw-threaded portion 21 of the valve-stem. This valve-stem is of smaller diameter than pipe 4, so that the gasolene can readily flow to the generator. 100

The operation is as follows: The sliding trough is slid outward until the arm 10 is in front of pipe 7. Valve 3 is then opened, admitting gasolene to the generator, which from

thence will flow down pipe 6 and into and out of pipe 7, the valve in the latter being opened. The gasolene will then strike arm 10 and be diverted into the trough. Said valves are
 5 then closed and the gasolene in the trough ignited, which will heat pipes 6 and 7 and vaporize the oil therein. The trough is then pushed inward, so that the arm 10 will be out of the path of pipe 7. The valves will be again
 10 opened, when the vapor from the said pipes will enter the burner 13 through pipe 13^a, carrying with it a proper quantity of air, and will be ignited at the top of the burner. This will cause the gasolene in the generator to be
 15 converted into gas, which will escape through the inclined passage 22 and the needle-valve 24 into cylinder B, when it will be mixed with air and from whence it may escape through pipe 17 to suitable burners.

20 Having thus fully described our invention, what we claim is—

1. In an apparatus for making gas from liquid hydrocarbons the combination with the generator, the supply-pipe, the horizontal
 25 pipe connected therewith and the valve therein, of the sliding trough, the upwardly-extending spoon-shaped arm, the main burner located below the generator and the pipe connected therewith, substantially as described.

30 2. In an apparatus for making gas from liquid hydrocarbons, the combination with the supply-pipe, the generator connected therewith, the angle-pipe connected with the generator, and the horizontal pipe connected
 35 therewith, provided with a valve of the plate connected with said angle and horizontal pipes, the bracket secured thereto, formed with a longitudinal opening the sliding trough provided with notched lugs working in said
 40 opening, the upwardly-extending spoon-shaped arm, the main burner located beneath the generator and the pipe connected therewith, substantially as described.

45 3. In a machine for making gas from liquid hydrocarbons, the combination with supply-pipe, the generator connected therewith, the angle and horizontal pipes, and the valve, of the plate connected with said angle and horizontal pipes, the bracket secured thereto
 50 formed with a longitudinal opening, the sliding trough having downwardly-depending

notched lugs engaging with said opening, the upwardly-extending spoon-shaped arm, the plate secured to said bracket having an opening therein, the perforated chimney, the
 55 burner located beneath the generator and the pipe connected therewith, substantially as described.

4. In an apparatus for making gas from liquid hydrocarbons, the combination, with the
 60 supply-pipe, the generator connected therewith, the angle and horizontal pipes, the valve in the horizontal pipe, and the lateral lugs secured to said horizontal lugs, of the bracket having an opening therein, the sliding trough
 65 provided with notched lugs engaging with said openings, the upwardly-extending spoon-shaped arm, the burner located beneath the generator and the pipe connected therewith, substantially as described.

70 5. In an apparatus for making gas from liquid hydrocarbons, the combination with the cylinders, the supply-pipe, the generator connected therewith, the inclined passage in the generator, the pipe at the upper end of said
 75 generator, with which said passage communicates, the valve-stem screw-threaded near its upper end and the needle-valve, projecting into the upper cylinder, substantially as described.

80 6. The combination with the upper and lower cylinders, the air-pipes connected with the upper cylinder, the escape-pipe provided with a perforated diaphragm, and the cover, of the generator, the supply and escape pipes
 85 therefor, the inclined passage leading to the escape-pipe, the screw-threaded valve-stem, the needle-valve projecting into the upper cylinder, the angle-pipe, the horizontal pipe connected therewith provided with a valve,
 90 the sliding trough, the upwardly-extending arm, the burner and pipe connected therewith, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands, this 8th day
 95 of July, 1897, in the presence of witnesses.

JOHN C. FUHR.
 HENRY J. FUHR.

Witnesses:

E. E. PETERSON,
 W. S. ATCHLEY.