No. 756,518. PATENTED APR. 5, 1904.

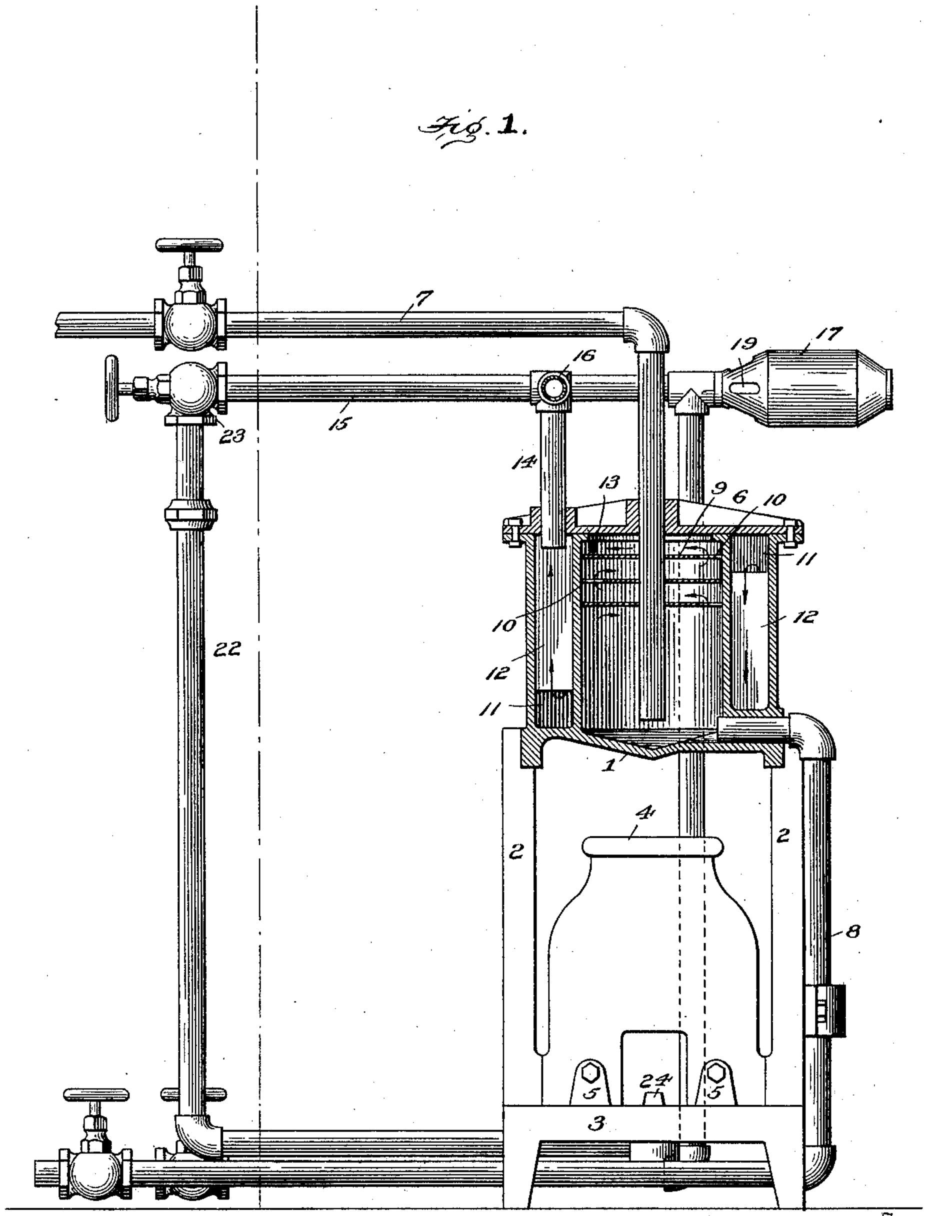
C. H. MONTGOMERIE Y AGRAMONTE.

GAS RETORT.

APPLICATION FILED AUG. 5, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

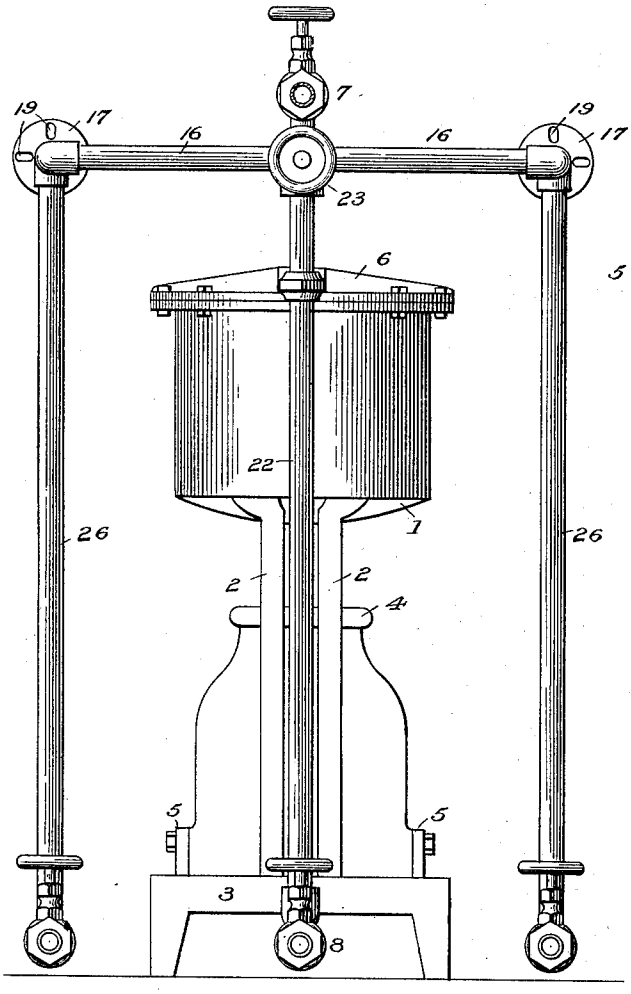


Fig. 3.

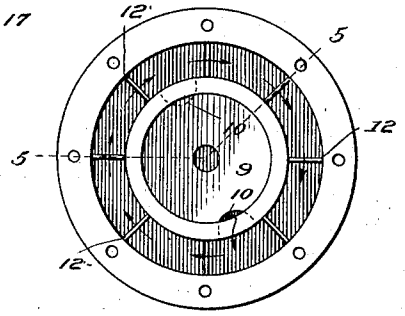
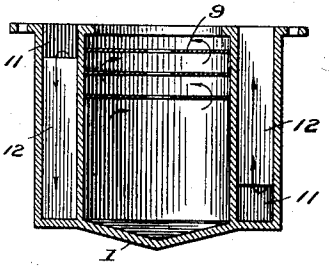


Fig. 4.



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UNITED STATES PATENT OFFICE.

CLARENCE HORACE MONTGOMERIE Y AGRAMONTE, OF MEXICO, MEXICO.

GAS-RETORT.

SPECIFICATION forming part of Letters Patent No. 756,518, dated April 5, 1904.

Application filed August 5, 1903. Serial No. 168,298. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE HORACE MONTGOMERIE Y AGRAMONTE, a citizen of the United States, residing at the city of Mexico, Republic of Mexico, have invented certain new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to hydrocarbon-gas generators and burners; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The device is especially adapted to be used in connection with steam-boilers; and it consists of a vaporizer into which the hydrocarbon is introduced, said vaporizer being provided with a series of horizontally-arranged baffle-plates and being surrounded by a gasifying-chamber which is provided with a series of vertically-arranged baffle-plates, an opening leading from the vaporizer to the gasifying-chamber, and a gas-pipe leading from the gasifying-chamber and connecting with a burner located under the boiler and also with a burner located under the vaporizer. The burner or burners located under the boiler have suitable air-feeds with dampers or other regulating devices located therein. The entire gas generating and consuming portions of the mechanism may be located in the fire-box of the furnace or the generating portion thereof may be located at any other suitable point, having the burners for heating the boiler located in the fire-box.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of the gasifying and burning apparatus. Fig. 2 is a front elevation of the apparatus as shown in Fig. 1. Fig. 3 is a top plan view of the vaporizer and gasifier with its top removed, and Fig. 4 is a transverse sectional view of the vaporizer and gasifier.

The apparatus consists of the vaporizer 1, mounted upon the upright standards 2 2, which rest at their lower ends upon the base 3. The burner-casing 4 is also located upon the said base 3 and is bolted to the lugs 5. The top of the vaporizer 1 is closed by the cover 6. The oil-supply pipe 7 passes vertically through the center of the top 6 and terminates in the bottom of the vaporizing-chamber 1. The said bottom of the said chamber 1 is concaved and is connected to the drip-outlet pipe 8. In the upper part of the gasifying-chamber 1 is arranged a series of horizontally-disposed baffle-plates 9 9, each said plate being provided with an opening 10, the said opening of one plate being diametrically opposite the next plate or plates. The gasifying-chamber 11 surrounds the vaporizer 1, said gasifying-chamber having located therein a series of vertically-arranged baffle-plates 12. The opening 13, located in the upper part of the vaporizer 1, connects the interior of said vaporizer with the interior of the gasifying-chamber 11. The plates 12 are so arranged that the gas must enter one compartment between the plates over the top of one plate and leave it at the bottom of the next. This has a tendency to retard the flow of the gas and gives it plenty of time to become thoroughly heated before passing to the burner. The pipe 14 connects the gasifying-chamber 11 with the pipe 15. The pipe 16 connects the pipe 15 with the burner 17. The rear end of the burner 17 is provided with the air-ports 19. The pipe 15 also connects with the pipe 22, which is provided with a valve 23. The pipe 22 connects with the burner 24, which is located within the burner-casing 4.

In the form of the invention as shown each burner 17 is provided with a drip-pipe 26. All of the drip-pipes above referred to are provided with suitable valves, as is also the oil-inlet pipe.

The device is operated as follows: The vaporizer 1 is heated by any suitable means, and the oil is then passed into the same through the pipe 7. The vapor rising from the said oil passes through the openings 10 of the baffle-plates 9 and through the opening 13 into the gasifying-chamber 11, where it passes over and under alternately the baffle-plates 12 and is gasified. After making a complete circuit of the gasifying-chamber 11 the gas passes through the pipe 15. Thence the major portion of it passes through the pipe 16 to the burner 17, where it is ignited and consumed. A portion of the gas passes from the pipe 15 past

the valve 23 into the pipe 22, thence to the burner 24, where it is ignited and consumed. The heat thus generated passes up against the bottom of the vaporizer 1 and its surrounding gasifying-chamber, and the process of vaporizing and gasifying above described is continued.

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

1. A vaporizing-retort having horizontal baffle-plates located therein, an oil-supply pipe leading through the top of said retort and passing through said baffle-plates, a gasifying-chamber surrounding said retort, the wall of said retort forming the inner wall of the gasifying-chamber, said gasifying-chamber having vertical baffle-plates located therein, said retort having an outlet located above the horizontal baffle-plates and leading into said gasifying-chamber.

2. A vaporizing-retort having horizontal baffle-plates located therein, said retort having a concaved bottom, an oil-supply pipe leading through the top of said retort and passing through said baffle-plates and terminating above the center of the bottom of said retort, a gasifying-chamber surrounding said retort and being provided with suitable baffle-plates, said retort having an outlet located above said baffle-plates and leading into said gasifying-chamber.

3. A vaporizing-retort having horizontal baffle-plates and a suitable oil-inlet, and an outlet located above the baffle-plates, a gasifying-chamber surrounding said retort and having vertical baffle-plates, the wall of the retort forming the inner wall of said chamber, said retort and said chamber being located upon a bottom common to both.

CLARENCE HORACE MONTGOMERIE Y AGRAMONTE.

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