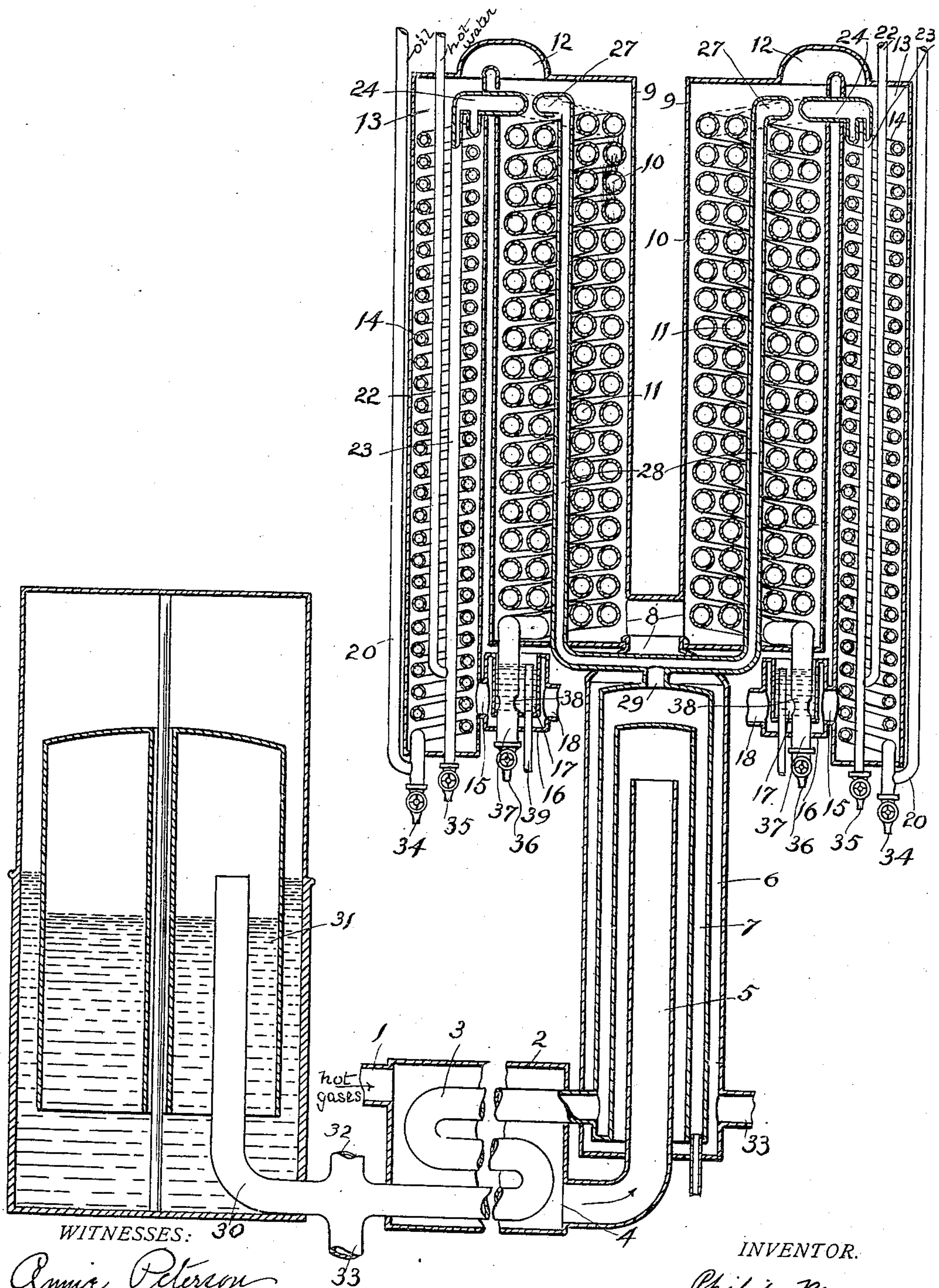


No. 868,205.

PATENTED OCT. 15, 1907.

P. MEYER.  
GAS GENERATOR.

APPLICATION FILED FEB. 23, 1906.



WITNESSES: 30

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# UNITED STATES PATENT OFFICE.

PHILIP MEYER, OF SANTA ROSA, CALIFORNIA.

## GAS-GENERATOR.

No. 868,205.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed February 23, 1906. Serial No. 302,337.

To all whom it may concern:

Be it known that I, PHILIP MEYER, a citizen of the United States, residing at Santa Rosa, in the county of Sonoma and State of California, have invented certain new and useful Improvements in Gas-Generators, of which the following is a specification.

This invention relates to a gas generator for vaporizing and gasifying liquid hydrocarbon and water by utilizing the waste heat of combustion in the gases exhausted from gas, gasoline, vapor, or oil engines.

In the accompanying drawing, the figure is a vertical section of the apparatus.

In this invention the oil and water, and the gases arising therefrom, travel gradually from the point of lowest to that of highest temperature, and the highly heated waste gases simultaneously travel in the reverse direction, transmitting their heat gradually to the oil and water.

The waste gases coming from the engine pass by an inlet 1 into a chamber 2, surrounding and heating a coil 3, and thence by an outlet 4 and pipe 5 into a chamber 6 surrounding an annular chamber or shell 7. Said chamber 6 is connected by passages 8 with heating chambers 9, each surrounding coils 10 and 11 of somewhat smaller diameter of pipe than that shown at 3, said chambers 9 connecting by passages 12 with chambers 13 surrounding coils 14 of pipe of still smaller diameter than coils 10 and 11, said heating chambers 13 being connected at the bottom by passages 15 with chambers 16 around the seals 17 and thence out by the outlets 18.

The oil enters by the pipes 20, going to the bottoms of the coils 14, and being heated by the waste gases in the chambers 13; and at the same time hot water, drawn from the water jackets of the gas or other engine, passes down by pipes 22 and into vertical pipes 23 up which it flows, being by the heat of the waste gases in the surrounding chambers 13 converted into steam, and then uniting by pipes 24 with the oil vapor leading from the coils 14. Said mingled steam and oil vapor then pass down by the coils 10 to the bottom, which are there connected with inner coils 11 up which the steam and oil vapor flow and are superheated being connected at the top with outlets 27 leading by pipes 28 to the entrance 29 to the shell 7, said shell connecting with the coil 3, which latter connects by a pipe 30 with a gas holder 31.

32 is a pipe leading from the gas pipe to the engine, and 33 are passages leading to seals not shown.

In order to draw off the liquids, there are provided the valves 34, 35, 36. At the bottom of the coils 10, 11, are provided downward extensions 37 provided at the lower portion with holes 38 leading into the water seals 17 having overflow pipes 39.

I claim:—

1. An apparatus of the character described comprising an oil conduit, a water conduit, a heating chamber around said conduits, a second heating chamber, a coil therein for the commingled vapors of the oil and water, a third heating chamber, a conduit therein for said heated commingled vapors, a gas holder connected with said latter conduit, said chambers being connected in series and having an inlet at the end opposite to that at which oil and water are admitted, and an outlet at the end adjacent thereto, substantially as described.

2. An apparatus of the character described comprising an oil conduit, a water conduit, a heating chamber around said conduits, a second heating chamber, a coil therein for the commingled vapors of the oil and water, a downward extension from the coil in the second chamber and a seal therefor, a third heating chamber, a conduit therein for said heated commingled vapors, a gas holder connected with said latter conduit, said chambers being connected in series and having an inlet at the end opposite to that at which oil and water are admitted, and an outlet at the end adjacent thereto, substantially as described.

3. In combination, oil and water supply pipes, a heating coil for the oil, a heating chamber surrounding said coil and the water pipe, a second heating chamber, a coil therein of larger diameter of pipe with which both the water pipe and the first coil connect, a third heating chamber, a conduit in said chamber connected with said coil and having a still larger passage area, and a gas holder connected with said latter conduit, the series of heating chambers being provided with an inlet adjacent to the gas holder end of the series of conduits, and with an outlet at the opposite end, substantially as described.

4. In an apparatus of the character described, the combination of a water pipe, a coil, an oil pipe leading to said coil, a heating chamber around the coil and water pipe, a second heating chamber, inner and outer coils therein connected together at the bottom, a downward extension from the junction of the two coils, a seal into which said extension discharges, one of said coils being connected at the top with the first coil and the water pipe, a conduit leading from the top of the other coil in said chamber, a third chamber, a conduit for the heated oil and water vapors, and a gas holder connected with the conduit for said vapors, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PHILIP MEYER.

Witnesses:

BESSIE GORFINKEL,  
ANNIE PETERSON.