

(No Model.)

2 Sheets—Sheet 1.

J. WILLIAMS, Jr. & E. O. PEOPLES.
APPARATUS FOR MAKING GAS.

No. 477,725.

Patented June 28, 1892.

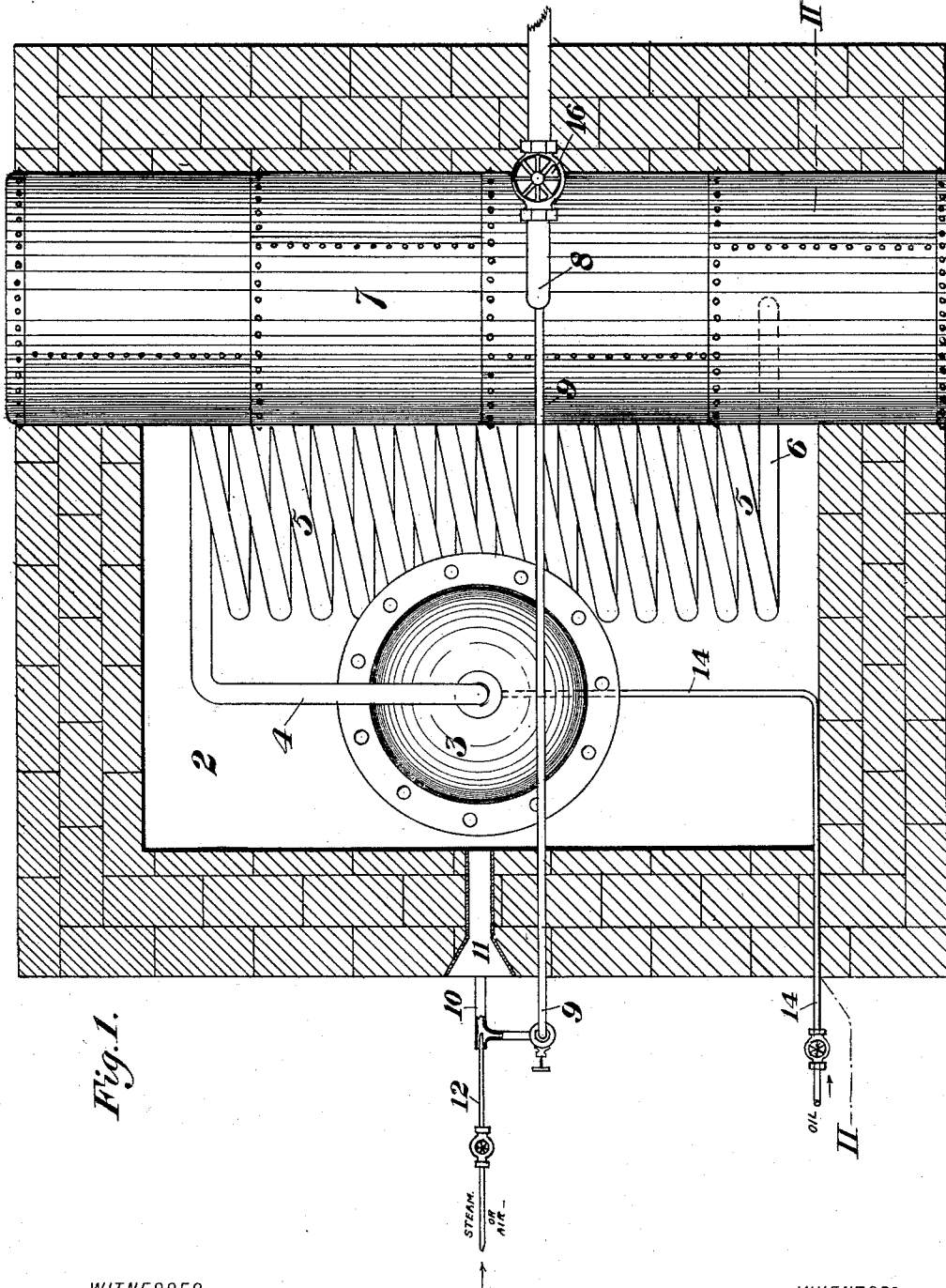


Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MAKING GAS.

SPECIFICATION forming part of Letters Patent No. 477,725, dated June 28, 1892.

Application filed February 2, 1891. Serial No. 379,897. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH WILLIAMS, Jr., and ERASMUS O. PEOPLES, both of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Making Gas, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of my improved apparatus, the roof of the chamber being removed. Fig. 2 is a vertical section on the line II II of Fig. 1.

The object of our invention is to provide means for generating gaseous vapor to be burned in the combustion-chambers of boiler-furnaces or other furnaces, or to be used in generating light or power.

Referring to the drawings, 2 represents a chamber in which the vapor-generating apparatus is contained.

3 is a retort or vessel having a flat bottom and arched top, from which a pipe 4 leads to a coil of pipe 5, also situate in the chamber, and thence a pipe 6 leads to a drum or reservoir 7 in the chamber. From the drum 7 a pipe 8 leads to the furnace or other place where the vapor is to be utilized, and a branch pipe 9 leads to a burner-pipe 10, which delivers through an air-mixing pipe or chamber 11 into the chamber 2.

12 is a pipe which delivers steam or air into the pipe 10, as shown.

13 is the exit-flue for the products of combustion from the chamber 2.

14 is a pipe which enters the base of the vessel 3 for the purpose of supplying thereto the liquid to be vaporized. Above the end of this pipe is a plate 15, set there for the purpose of spraying the vapor and delivering it upon the base of the chamber 3, so that it may be vaporized therein.

The operation is as follows: The chamber 2 is first heated up by suitable means and then oil is admitted through the pipe 14 under sufficient pressure to cause it to enter the chamber 3 and to be delivered upon the bottom thereof in the form of a spray. In this chamber the oil is vaporized, and the vapor passes through the pipe 4 into the coil 5, where it is still further heated, thence into the drum

7, where additional heating is imparted to it, and finally through the pipe 9 to the burner 10, whence it enters the combustion-chamber 2, and, being ignited, heats said chamber and the different parts of the apparatus therein contained to a high temperature. We prefer, also, to introduce steam through the pipe 12, which acts as a carrier for the vapor and enhances its combustion. When the chamber 2 has been thoroughly heated, we open the valve 16, which controls the pipe 8, so that the generated vapor shall pass through said pipe to the place where it is to be utilized, while only a portion is conducted off through the pipe 9 to the burner 10 for the purpose of maintaining the heat of the combustion-chamber.

We derive peculiar advantage from the construction and use of the chamber 3, which insures the rapid vaporization of the fluid, and in case of oil enables the apparatus to be used without forming the undesirable solid deposit which has been so objectionable in other apparatus designed for similar purposes.

We claim—

1. A gas-manufacturing apparatus comprising a combustion-chamber, a closed retort set therein, an oil-reservoir above the level of the retort, a pipe leading from the oil-reservoir to a point within the retort, and a coiled pipe within the combustion-chamber, connecting with the retort and with a gas-holder, also within the combustion-chamber, substantially as and for the purposes described.

2. In a gas-generating apparatus, the combination of a combustion-chamber, a retort, and a reservoir having an uninterrupted chamber located in the upper part of the combustion-chamber above the retort, an oil-supply pipe entering the retort, a coiled pipe connecting the retort and reservoir, and a discharge-pipe leading from said reservoir, substantially as described.

In testimony whereof we have hereunto set our hands this 29th day of January, A. D. 1891.

JOSEPH WILLIAMS, JR.
ERASMUS O. PEOPLES.

Witnesses:

W. B. CORWIN,
H. M. CORWIN.