

No. 886,309.

PATENTED APR. 28, 1908.

W. TURES.  
GAS GENERATOR.

APPLICATION FILED FEB. 11, 1907.

Fig. 1.

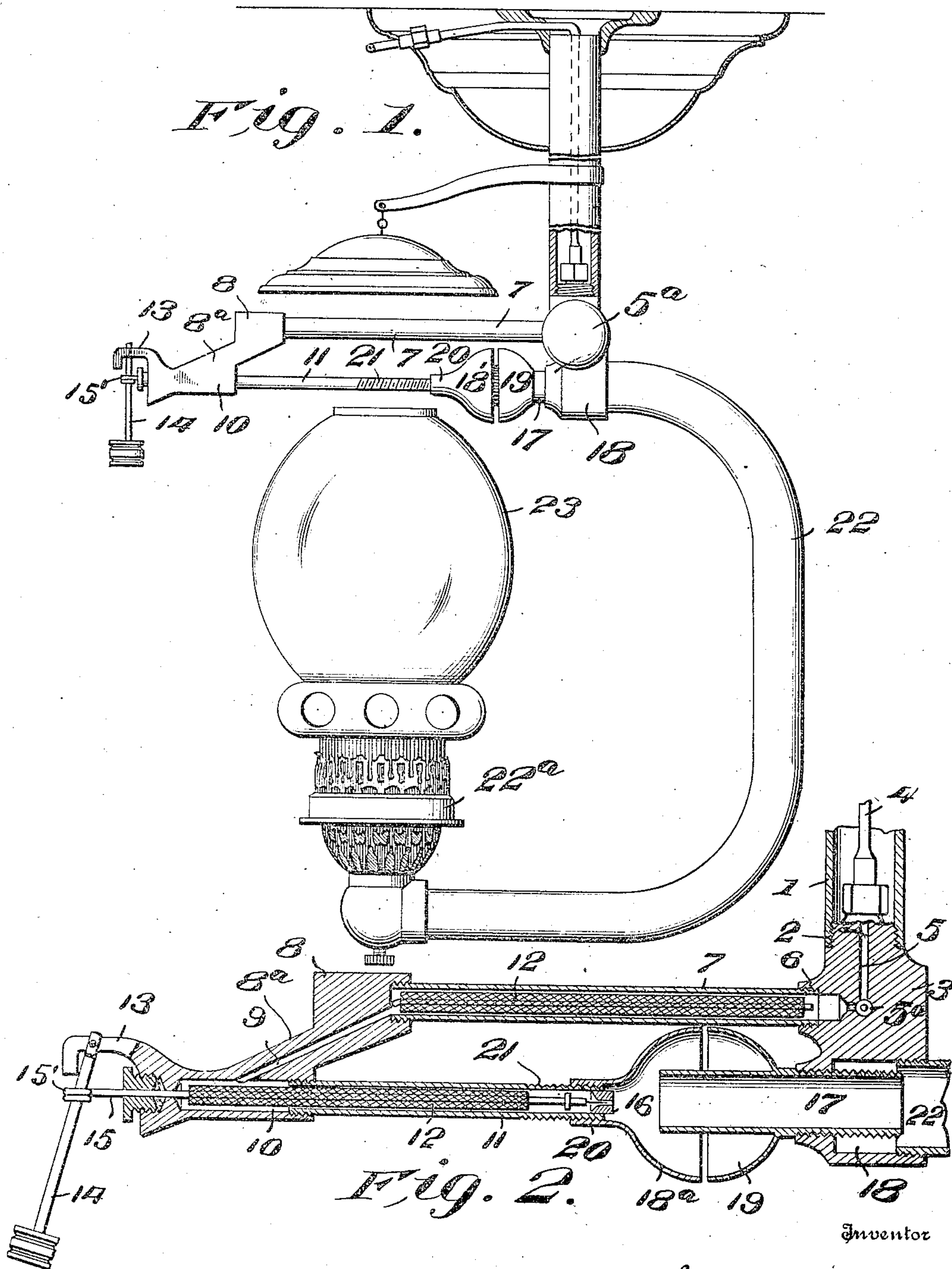


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## GAS-GENERATOR

No. 886,309.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed February 11, 1907. Serial No. 356,749

*To all whom it may concern:*

Be it known that I, WILLIAM TURES, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Gas-Generators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in gas generators and more particularly to that class adapted to be used for lighting purposes and my object is to provide means for generating gas from gasoline or similar fuel and utilizing the gas so created for producing a light, with the use of a mantle.

A further object is to provide means for regulating the mixture of air with the gases so formed whereby a proper combustion will be produced, and a still further object is to provide means for controlling the flow of the gaseous product.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation, partly in section of my improved form of gas generator, and, Fig. 2 is a detail sectional view on an enlarged scale of the generating and air controlling parts of the device.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a tubular supporting rod which is adapted to be secured to the ceiling of a room or in any other desired position; the lower end of which is internally screw-threaded as shown at 2 and adapted to engage a threaded extension on the body portion or union 3.

An oil conveying pipe 4 is adapted to extend from the source of supply through the supporting rod 1 and into engagement with a bore 5 extending through the union 3 and in order to regulate the flow of oil through the bore 5, I provide a turn cock 5<sup>a</sup> which intersects the bore 5 at any suitable point.

Extending from one side of the union 3, is an extension 6, said extension having a bore therein communicating with the bore 5 and said bore is threaded to receive one end of a generator tube 7, the outer end of said tube

being threaded into a member 8 as clearly shown in Fig. 2.

The member 8 is provided with a downwardly and laterally extending section 8<sup>a</sup> which is provided with a central bore 9 which communicates at its lower end with a tubular extension 10, said extension 10 being internally threaded at its free end to receive one end of an auxiliary generating tube 11. The auxiliary tube 11 is preferably disposed beneath and parallel with the generating tube 7, each of said generating tubes being provided with screen members 12 which are inserted in the bores of the generating tubes and held therein in any suitable manner, said screens being employed to diffuse the oil passing therethrough and thereby rendering the same more susceptible to vaporization and the screens will also catch and retain all foreign particles contained in the oil.

The tubular extension 10 is provided at one end with an outwardly extending bracket 13 to which is pivotally secured a controlling lever 14, said lever having a knob at its lower end and is directed through a ring 15 at the outer end of a cleaning needle 15 so that when the lever 14 is swung upon its pivot point the needle will be accordingly moved inwardly and outwardly. The free end of the auxiliary tube 11 is provided with a nipple 16 through which the gases pass from the generating tubes and the needle 15 is so located that the point thereon will enter the bore in the nipple and remove all sediment therefrom when the cleaning needle is moved back and forth by the lever 14.

The nipple 16 is so located as to be concentric with a tubular mixing chamber 17 and is located at a distance from the open end thereof, said mixing chamber being adjustably secured in a bore 18 in the lower end of the union 3 so that when desired the mixing chamber may be moved towards or from the nipple.

In order to obtain a proper combustion of gases of this class it is necessary to mix with the gas a suitable amount of air and to this end I have provided means for regulating the flow of air into the mixing chamber which consists of providing a pair of semiglobular members 18<sup>a</sup> and 19, the member 18<sup>a</sup> having a neck 20 in the central portion thereof which is interiorly threaded and adapted to engage threads 21 on the end of the auxiliary tube 11 while the member 19 is fixed to the periphery



of the tubular mixing chamber 17 and it will be readily seen that by properly adjusting the members 18<sup>a</sup> and 19 towards or from each other that the amount of air entering the mixing chamber will be correspondingly decreased or increased, it being understood that the suction caused by the gas passing from the nipple 16 into the mixing chamber 17 will properly draw the air into the members 18<sup>a</sup> and 19. The commingled air and gas is conveyed from the mixer 17 to a burner 22<sup>a</sup> through a tube 22, said tube forming a reservoir for the gases.

The burner 22<sup>a</sup> is preferably disposed centrally below the generating tubes 7 and 11 so that the heat from the burner will superheat the tubes and generate the oil passing there-through into gas, the heat being positively conveyed into engagement with the tubes by placing a chimney 23 on to the burner 22<sup>a</sup>, said chimney being of sufficient height to extend in close relation to the lower tube 11.

It will now be seen that I have provided a very cheap and economical means for generating gas from oils and it will also be seen that I have provided positive means for regulating the amount of air admitted to and mixed with the gas after the same has been generated, so that a proper combustion may be obtained and a brilliant white light pro-

duced and one that will be devoid of smoke prevalent in burners not provided with proper mixing facilities.

What I claim is:

The herein described gas generator comprising a support, a union carried by said support, means to convey oil to said union, an upper generating tube communicating with said union, a lower generating tube, a member connecting said generating tubes, a mixing chamber concentric with the lower generating tube, said mixing chamber being adjustably mounted in said union whereby the space between said mixing chamber and lower generating tube may be varied, means to control the flow of air into the mixing chamber comprising a semi-globular member formed integral with the mixing chamber, said mixing chamber extending beyond the rim of semi-globular member, and a semi-globular member adjustably mounted on the free end of the lower generating tube.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM TURES.

Witnesses:

W. O. THOMAS,  
THOMAS LEECH.