

No. 836,963.

PATENTED NOV. 27, 1906.

T. A. DAVIS.
APPARATUS FOR GENERATING GAS.

APPLICATION FILED FEB. 5, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

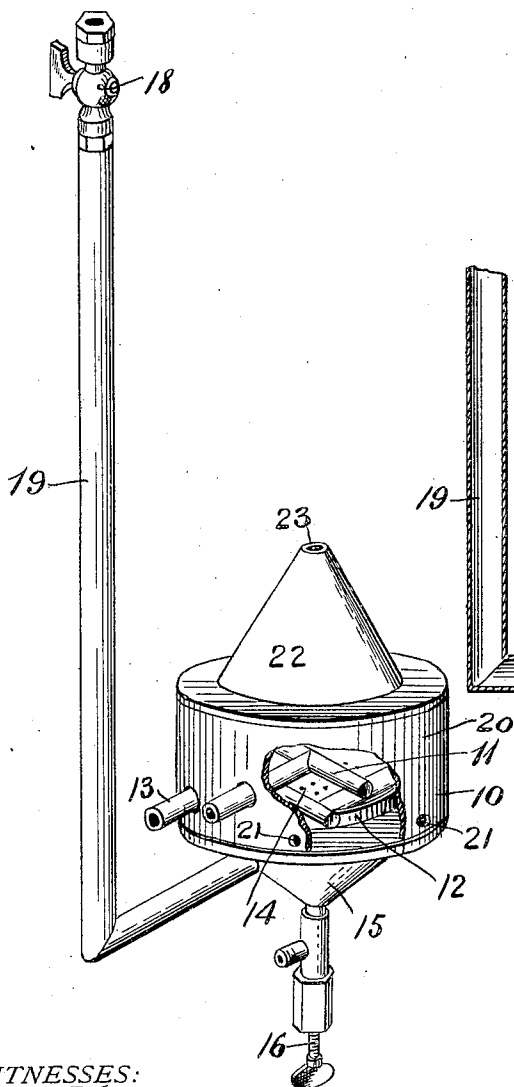
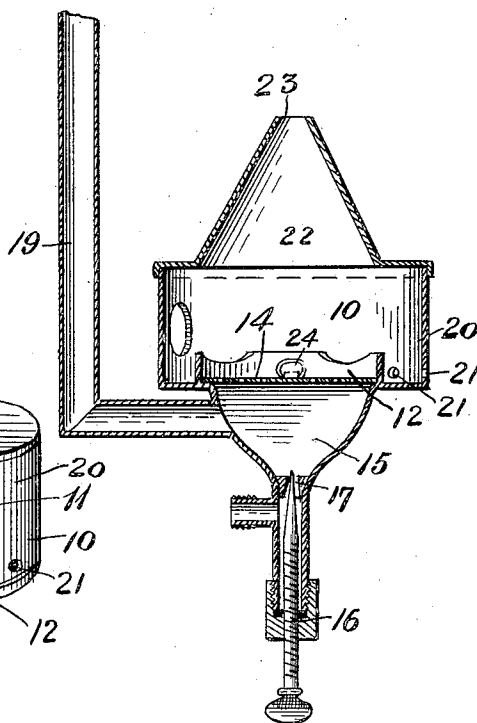


Fig. 2.



WITNESSES:
H. J. McKeen,
S. L. Barker.

INVENTOR.
Thomas A. Davis,

By *Lawson Baggett*
Attorney.

No. 836,963.

PATENTED NOV. 27, 1906.

T. A. DAVIS.
APPARATUS FOR GENERATING GAS.
APPLICATION FILED FEB. 5, 1906.

2 SHEETS—SHEET 2.

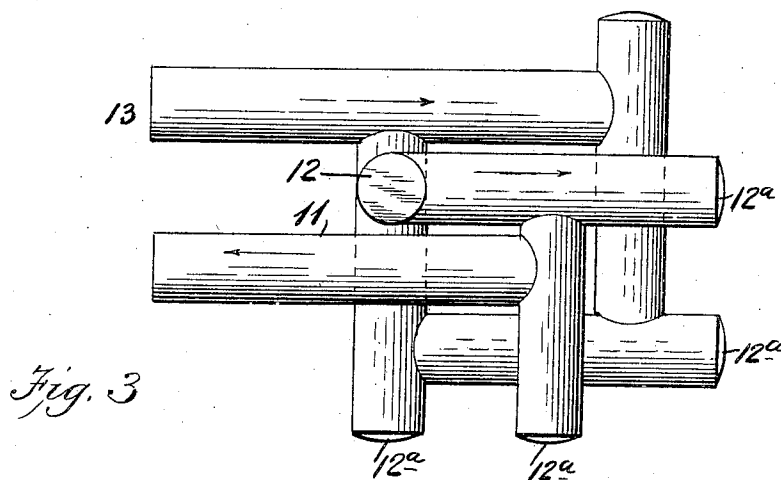


Fig. 3

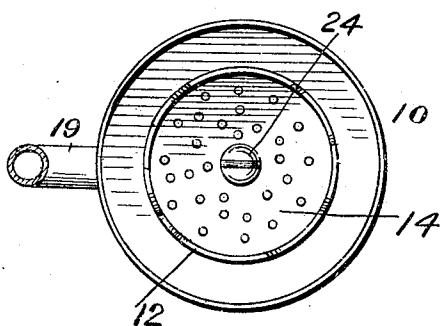


Fig. 4.

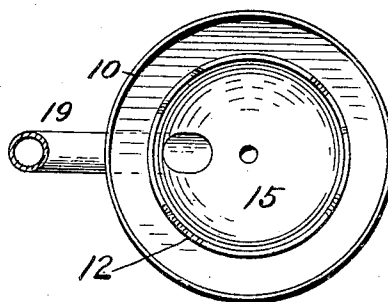


Fig. 5.

WITNESSES:

H. J. M^c Kever.
L. L. Burkett.

INVENTOR:

Thomas A. Davis,

BY *Sam. Bayne Lee*
Attorney.

UNITED STATES PATENT OFFICE.

THOMAS A. DAVIS, OF FINDLAY, ILLINOIS.

APPARATUS FOR GENERATING GAS.

No. 836,963.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed February 5, 1906. Serial No. 299,585.

To all whom it may concern:

Be it known that I, THOMAS A. DAVIS, a citizen of the United States, residing at Findlay, in the county of Shelby and State of Illinois, have invented certain new and useful Improvements in Apparatus for Generating Gas, of which the following is a specification.

This invention has relation to gasolene illuminating-machines, its object being to simplify the apparatus in its various parts, rendering it safer and more economical in use and at the same time providing a better illuminator generally in the lines of its use than has heretofore been employed.

The nature of the invention and its points of advantage and superiority will appear from time to time in setting forth its construction and mode of operation.

The drawings hereto annexed fully illustrate the invention and form a part of the specification, to which drawings reference is made, in which—

Figure 1 is a perspective view of the machine complete, a part being shown as broken away. Fig. 2 is a vertical sectional view, the generating-pipes in the combustion-chamber being removed. Fig. 3 is a view of the generating-pipes separated. Fig. 4 is a plan of the combustion-chamber with the generating-pipes removed. Fig. 5 is a similar view showing the perforated plate over the cavity also removed.

The same figures of reference designate the same parts or features, as the case may be, whenever they occur.

In the machine herein disclosed, 10 designates the combustion-chamber, in which are arranged the generating-pipes 11, that rest upon a low indented rim 12 in the bottom, and the gasolene from its entrance at 13, following the arrows marked on the pipes, first traverses a full rectangular course in the pipes and a little more in so far as the pipes or some of them extend beyond their right-angular turn and then another rectangular course and more, even though one side in front is omitted. This arrangement is for the purpose of taking advantage to a maximum extent of the space offered in the subburner-plate. The subburner in the present case consists of the perforated plate 14, resting on an annular seat over the cavity 15. The gas for the subburner is to be supplied from the gas-charged air from the pressure-tank, connections (not shown) being made by means

of a pipe from the said tank to the valve 16 at the point 17, and from the fact that there are no perforations in the center of the said plate 14 the gas-charged air being forced toward the center of said plate will strike it and be spread or diffused, passing evenly through said perforations, and will cause said flame to burn steadily until the pipes are sufficiently heated to warrant the introduction of the gasolene. However, in starting the action of said subburner, as just stated, in order to prevent the wasting of the gas as it is supplied thereto the valve 18 should be suitably manipulated so as to guard against the escape out through the pipe 19. The valve 18 is primarily for controlling the gas-supply to the subburner. Again, the arrangement places all the parts in immediate contact with the subflame, as is obvious, and from the construction shown the gasolene upon entering at the point 13 and following the said route indicated by the arrows, having to pass around the square or angular turns, is, as it were, baffled at said turns, and hence is more thoroughly and readily volatilized and rendered "dry gas" before emerging from the generating-chamber and started in its course to "do work." The said pipes 11 are constructed with caps 12^a at the ends of the parts which project beyond a meeting pipe, which caps are removable, so that the said pipes may be the more readily cleaned when necessary so to do. By supporting the said pipes on the seat 12 they are maintained above the bed free from the supply of gas used in the subburner and conducted through the pipe 19.

The rim 20 of the combustion-chamber has the openings 21 around the bottom to supply the subflame with air, while the cone-shaped covering 22 has the opening 23 at the top to allow the heated air to escape.

The ring 24 in the center of perforated cover to the cavity is for the purpose of facilitating the manipulation of the same—that is, removing and replacing it with great facility.

Another advantage of the subburner is that it affords an unusually great extent of heating-surface, a simplification of the parts, as is obvious, a generator of high efficiency that is easily cleaned, and a generator that, considering the energy exerted, converts a great amount of gasolene into absolutely dry gas.

While in many respects my machine seems to approach closely to the construction

and operation of others, it does not, in fact, employ the same means in any respect.

I claim—

1. A gas-generating apparatus comprising
5 in its construction a combustion-chamber, gas-generating pipes in said chamber, said pipes consisting of short straight lengths of the same, making right-angular turns at their points of juncture, with their respective
10 end portions extending some distance beyond said points of juncture, intake and outtake ports, said chamber having a cavity in its bottom, a finely-perforated partition between the cavity and the gas-chamber, and
15 an intake into the cavity.

2. In a gas-generating apparatus, a combustion-chamber having a conical top, a hole

in said top, holes around the body near the bottom thereof, gas-generating pipes in said chamber, making right-angled turns at their
20 points of juncture, with their respective end portions extending some distance beyond said points of juncture, an intake and outtake to said pipes, said chamber having a cavity in its bottom, an intake to said cavity, 25 and a finely-perforated partition to said chamber, between it and the chamber.

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

THOMAS A. DAVIS.

Witnesses:

A. P. TIPPITT,
BRAZ D. TULL.