

No. 661,569.

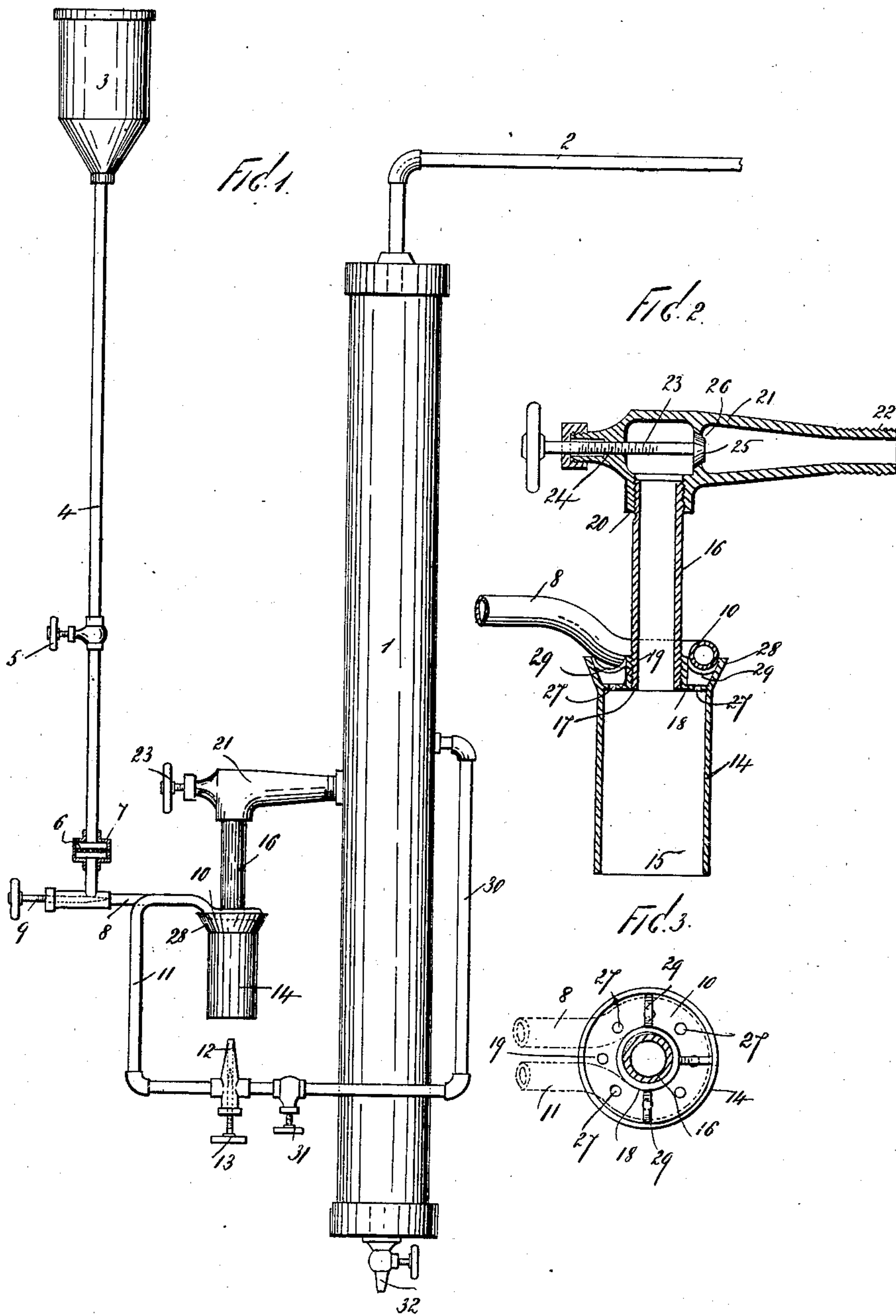
Patented Nov. 13, 1900.

J. C. WINANS.

CARBURETER.

(Application filed Mar. 1, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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CARBURETER.

SPECIFICATION forming part of Letters Patent No. 661,569, dated November 13, 1900.

Application filed March 1, 1900. Serial No. 6,891. (No model.)

To all whom it may concern:

Be it known that I, JOHN CLOSSON WINANS, a citizen of the United States, residing at Waldron, in the county of Hillsdale and State of Michigan, have invented certain new and useful Improvements in Apparatus for Generating Gas for Lighting Purposes, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for generating gasolene-gas for lighting purposes; and it has for its object to provide a simple and improved generating mechanism which can be conveniently and inexpensively operated and regulated with relation to the actual degree of consumption and which will furthermore possess advantages in point of convenience, inexpensiveness, ease of operation, and general efficiency.

In the accompanying drawings, forming part of this specification, in which like reference characters denote like parts in the several views, Figure 1 is a side elevation of a generating apparatus embodying my improvements. Fig. 2 is a detail sectional view of the heating or generating mechanism and the main feeding connection therefrom extending to the reservoir. Fig. 3 is a detail top or plan view showing the top of the generator.

Referring to the drawings, 1 designates the gas-storage reservoir, from which extends the service or outlet pipe 2. Said service-pipe 2 may be in direct connection with the burners or the gas-fixtures. 3 designates a tank for conveying gasolene, from which extends a pipe 4, through which the gasolene is adapted to be fed to the generating mechanism, this pipe being preferably provided with a suitable stop-cock or valve, as at 5. Said pipe 4 also embodies, preferably, a screen 6, which may be mounted in a suitable chamber or enlargement 7 upon the pipe 4, the office of this screen being to retain any dirt or deleterious substances as the gasolene flows through the screen and prevent such matter from reaching the generating mechanism or clogging the valves concerned therein. The pipe 4 connects with a pipe 8, and a suitable valve 9 is interposed to control the flow of gasolene from

the pipe 4 to the pipe 8. This valve preferably embodies a conical or needle stem which intersects the bore or opening of the pipe and is adapted in the usual manner by adjustment of its stem to regulate the flow of the gasolene to the pipe 8. A regulating-valve 9 at this point is desirable for the purpose that the flow of gasolene to the generator should be governed in accordance with the number of burners which are in service connection with the pipe 2 and are in operation, a lesser number of burners requiring a less flow of gasolene than would be required for a greater number of burners. The pipe 8 is extended into a single horizontal coil, as at 10, a single approximately-complete circle, such as represented in the accompanying drawings, being all that is required. This circle or curve in the pipe forms the generating-coil, and from this end is continued the pipe, as at 11, through which the gas is generated by heating of the coil, which is passed downwardly, as shown. Said pipe 11 leads to a vertically-projecting outlet or ejector 12, which is governed by a suitable valve 13, said valve being preferably of a regulating type embodying a needle or conical stem.

Above the outlet-pipe 12 is arranged a gas-receiver 14, which is preferably cylindrical and has an open bottom 15, which permits the passage of the generated gas from the outlet 12 directly into said receiver 14. The receiver is preferably sustained in position by an outlet-pipe 16, which extends vertically and preferably has a threaded connection, as at 17, with an annular collar or flange 18, projecting vertically from the top 19 of the receiver 14. The top end of said pipe 16 is connected, preferably, by a threaded connection, as at 20, with a pipe 21 and extending laterally or horizontally into the gas-storage reservoir 1, said pipe 21 preferably having a threaded connection, as at 22, with an orifice in the reservoir, and at the vertex of the angle of the gas passage-way formed by the pipes 16 and 21 is arranged a valve 23, by which the feed of the gas to the reservoir is governed. Said valve preferably comprises in construction a stem 24, carrying a valve-disk 25, operating with respect to a corresponding seat 26 in the pipe 21 beyond the point of connec-

tion of the latter with the pipe 16. The construction just above described provides a very simple arrangement of the generator and gas-receiver and the connections between the gas-

5 receiver and the reservoir, whereby the receiver and its connecting parts are all relatively mounted or sustained in position.

In the top 19 of the gas-reservoir 14 is provided a set of orifices or openings 27, which
10 will permit the passage of a sufficient quantity of gas during the passage of the gas through the reservoir 14 and into the pipe 16 to provide a jet above the top 19, it being only necessary to ignite the gas escaping through
15 said openings 27. At the top 19 of the gas-receiver 14 is provided an upwardly-extending flange 28, which surrounds said top portion and the series of jet-openings 27 and is preferably inclined or flared upwardly, as
20 represented in Fig. 2. This outer flange 28 forms, in conjunction with the inner flange 18, a heating-chamber in which the jets of gas at the openings 27 are maintained, and above this heating-chamber the coil or circle
25 10 of the pipe 8 is suitably sustained, preferably by means of transverse concave brackets 29, extending between the flanges 28 and 18. This construction of the gas-receiver 14 as just described, whereby it conjointly pro-
30 vides the heating-chamber and the channel for the passage of the generating gas to the reservoir and also sustains the generating-coil of the gasolene-pipe, provides an exceedingly simple and effective arrangement which
35 is particularly adapted for efficient operation.

The operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. The gasolene is fed from the tank 3 and pipe 4 to
40 the pipe 8 and the generating coil or circle 10, when by operation of the heating chamber or mechanism at the top of the gas-receiver 14 the gas is generated and passes through the pipe 11 to the outlet or ejector 12, it being
45 then received by the gas-receiver 14 and directed by the pipes 16 and 21 into the gas-storage reservoir 1, from which latter it is drawn off through the service-pipe 2. It will be noted that in construction and arrange-
50 ment as herein described and illustrated the generator itself provides the medium by which the generating coil or curve 10 of the pipe 8 is heated, whereby a continuous operation is insured and an effective result produced in a
55 very simple manner.

To enable the initial heating of the generating-coil when the gasolene is first turned on and before any gas is generated, so that the coil 10 will be automatically heated during
60 the passage of the gas-receiver 14, I provide a branch connection between the gas-storage reservoir 1 and the outlet or ejector 12, which branch connection may consist of a pipe 30, through which gas from the reservoir may
65 first be introduced to the gas-receiver 14 to enable the initial heating of the generating-

coil by jets at the orifices 27. As soon as the coil is sufficiently heated through the medium of this connection 30 to start the generation of the gas in the coil and the consequent pas- 70
sage of the same through the pipe 11 to the outlet 12 said connection may then be shut off by means of a suitable shut-off cock or valve 31, provided in the pipe 30. The res-
75 ervoir 1 may be provided with a drip-cock 32 at its lower end.

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

1. A gas-generator, comprising the gas-stor- 80
age reservoir, gasolene-feed means, a generating-coil, gas-conveying means extending from the coil to an outlet or ejector, the gas-receiver arranged above said outlet and hav-
85 ing an open bottom and a perforated top provided with flanges forming a heating-chamber above which the generating-coil is arranged, and a connection extending between said gas-receiver and the reservoir.

2. In a gas-generating apparatus, a gas-re- 90
ceiver provided with jet-openings and having a gas-conduit leading from its main chamber, in combination with a generating-coil mounted adjacent to said jet-openings, gasolene-
95 feed means for the said coil, and gas-conveying means extending from said coil to an outlet or ejector arranged in operative position with relation to said gas-receiver.

3. In a gas-generator, a gas-receiver pro- 100
vided with jet-openings in its top and having top flanges or extensions forming a heating-chamber about said jet-openings, a gas-conduit leading from the top of said gas-receiver, a generating-coil sustained at the top of the
105 heating-chamber above said jet-openings, gasolene-feed means for the coil, and gas-conducting means extending from the coil to an outlet or orifice operatively arranged with relation to said gas-receiver.

4. In a gas-generator, a gas-receiver having 110
an open bottom provided with jet-openings at its top, a gas-conduit leading centrally from said top, a generating-coil encircling said gas-conduit and sustained in position above said jet-openings, and a gas-conducting means ex- 115
tending from the coil to an outlet or ejector projecting operatively with relation to the open bottom of the gas-receiver.

5. In a gas-generator of the class described, the gas-storage reservoir directly carrying a 120
gas-receiver embodying a heating-chamber and means for operating the same by gas from said gas-receiver, in combination with a generating-coil sustained by said gas-receiver in operative relation to the heating-chamber and 125
a gas-conducting means extending from said coil to an outlet or ejector operatively arranged with relation to the gas-receiver.

6. In a gas-generator, a gas-receiver having 130
an open bottom and mounted above a gas outlet or ejector, said gas-receiver being provided with a heating-chamber at its top and

means for operating said heating-chamber
by gas from the receiver, in combination with
a generating-coil sustained in operative re-
lation to said heating means of the gas-re-
ceiver and connected with the outlet or ejec-
tor beneath the open bottom of said receiver.

In testimony that I claim the foregoing as

my invention I have signed my name, in pres-
ence of the subscribing witnesses, this 26th
day of February, 1900.

JOHN CLOSSON WINANS.

Witnesses:

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