

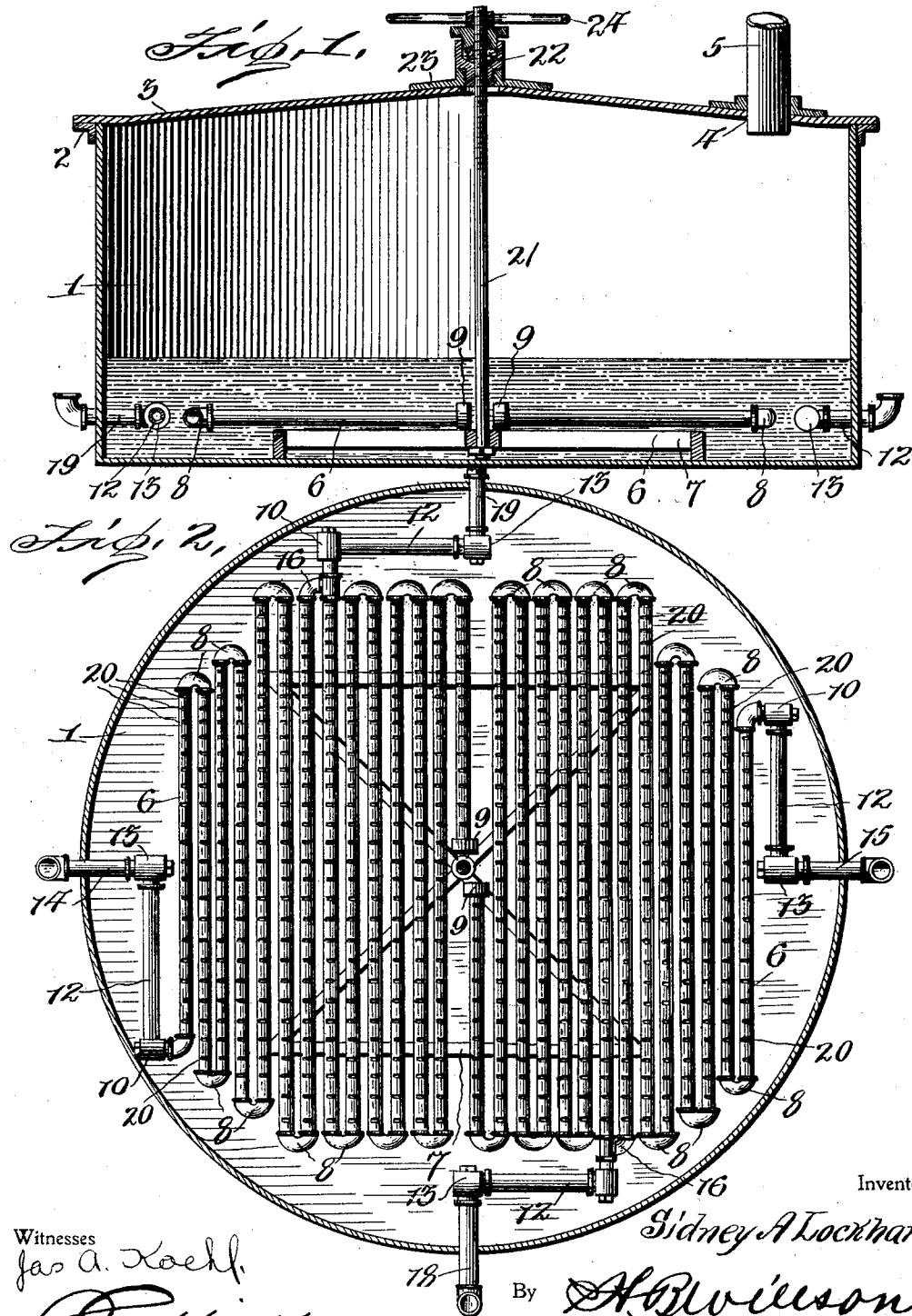
No. 757,935.

PATENTED APR. 19, 1904.

S. A. LOCKHART.
CARBURETER.

APPLICATION FILED DEC. 10, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

SIDNEY A. LOCKHART, OF SYRACUSE, NEBRASKA.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 757,935, dated April 19, 1904.

Application filed December 10, 1903. Serial No. 184,626. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY A. LOCKHART, a citizen of the United States, residing at Syracuse, in the county of Otoe and State of Nebraska, have invented certain new and useful Improvements in Carbureters; and I do 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.

This invention relates to improvements in carbureters.

The object of the invention is to provide a carbureter for generating gas from liquid hydrocarbon by forcing air through the same.

Another object is to provide means whereby large quantities of air may be evenly distributed and forced through the hydrocarbon, which is disposed in a body of greater or less depth to cover a wide area and into which body the means for distributing the air is submerged, a suitable tank being provided to contain the body of liquid hydrocarbon.

A further object is to provide means whereby the air-distributing mechanism may be adjusted to regulate the density of the vapor generated from the hydrocarbon.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of the generator. Fig. 2 is a horizontal sectional view of the same.

Referring more particularly to the drawings, 1 denotes a tank which is preferably, though not necessarily, cylindrical in form and constructed of sheet metal sufficiently heavy and strong to hold the pressure of the gas to be formed therein. Around the upper end of the tank is disposed an angle-iron binding-ring 2, to which is secured a gas-tight cover 3. In the cover 3 is formed a gas-outlet 4, from which extends a discharge-pipe 5. In the bottom of the tank is placed the desired quantity of gasoline or other liquid hydrocarbon, and into said liquid is submerged

the gas-generating mechanism, which consists of two series or sections of horizontally-disposed pipes 6, arranged in parallel order across the tank near the lower end of the same and supported upon a spider or frame 7. The pipes 6 of each series are connected at their opposite ends by return bends or elbows 8 to form continuous pipe-sections from two opposite sides of the tank to the center, where the inner adjacent ends of the two pipe-sections are closed by caps 9, as shown.

The outer ends of the pipe-sections adjacent to the sides of the tank are each provided with a coupling or union 10, which is connected by a flexible pipe 12 with a similar coupling or union 13 on the inner end of air-supply pipes 14 and 15, which enter the tank at diametrically opposite sides of the same.

The pipe-sections are further provided with air-pipe couplings 16, which are connected to the opposite ends of the same and take the place of one of the return-elbows 8, as shown. The couplings 16 are connected to one end of flexible pipes 12, which are connected at their opposite ends to the inner ends of air-supply pipes 18 and 19, which enter the tank at diametrically opposite sides of the same and in positions at right angles to the air-pipes 14 and 15.

The air-supply pipes may be connected to any suitable source of air-supply. (Not shown.) In the upper side of each of the pipes forming the series or sections in the tank are sawed short narrow slots 20, through which the air from the pipes is forced and which passes up through the gasoline and into the tank above.

In order that the pipe-sections may be raised or lowered in the gasoline, a central vertical shaft 21 is secured to the spider or frame 7, the upper end of the shaft being threaded and adapted to pass through a stuffing-box 22, which is screwed into a collar 23, bolted or otherwise tightly connected to and surrounding a centrally-disposed opening in the cover of the tank. On the upper threaded end of the shaft 21 is screwed a hand-wheel 24, which bears on the stuffing-box 22 and when turned in one direction or the other will raise or lower the spider or frame 7 and the pipe-sections.

tions resting thereon to the desired level in the gasoline at the bottom of the tank, the flexible connection between the pipe-sections and the air-supply pipes permitting this adjustment of the pipe-sections.

The operation is as follows: Air under proper pressure is admitted to the slitted pipe-sections through the supply-pipes and passes through the slits in said pipe-sections up through the gasoline, by which it is carburated, and in the form of gas it is conducted to a suitably-constructed gasometer. (Not shown). A valve (not shown) is arranged in the air-supply pipe or pipes, which may be controlled by the rise and fall of the gasometer to automatically control the supply of air to the pipe-sections.

The raising and lowering of the pipe-sections increases or diminishes the amount of gasoline above the pipe-sections through which the air from said sections has to pass, thereby forming a vapor or gas of more or less density which may be used for lighting or heating purposes.

While the discharge-openings in the pipe-sections are shown and described as slits sawed transversely in the pipes, it is obvious that other forms of perforations may be used. The arrangement of the air-pipes resting on the spider or frame 7 may also be varied, if desired.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a carbureter, the combination with a closed tank for containing liquid hydrocarbon, having a gas-discharge pipe, of a series of horizontally-disposed, parallel perforated pipes arranged in two sections, means for supporting said pipes in position to be submerged in said hydrocarbon, means for raising and lowering the same, air-supply pipes arranged at diametrically opposite points in

the sides of said tank, flexible connections between said air-pipes and said slitted pipes whereby air is supplied to said latter pipes and forced through the perforations of the same and into and through said liquid hydrocarbons to form a gaseous vapor in said tank, and means for adjusting the height of said slitted pipe-sections in said hydrocarbon, whereby the density of said gaseous vapor will be increased or diminished, substantially as described.

2. In a carbureter, the combination with a closed tank for liquid hydrocarbon, of a series of perforated pipes arranged to form two continuous sections adapted to be submerged in said hydrocarbon, a frame or spider to support said pipe-sections in said submerged position, a central vertically-disposed threaded shaft, secured to said frame or spider at its lower end, and adapted to pass through a packed opening in the top of said tank, means applied to the upper end of the shaft to raise and lower the same and the frame or spider carrying said sections of slitted pipes, and means for supplying said pipes with air, substantially as described.

3. In a carbureter, the combination with a closed tank for containing liquid hydrocarbon, of a series of perforated pipes arranged to form two continuous sections adapted to be submerged in said hydrocarbon, a frame or spider to support said pipe-sections in said submerged position, a central vertically-disposed threaded shaft secured to said frame or spider at its lower end, and adapted to pass through a packed opening in the top of said tank, means applied to the upper end of the shaft to raise and lower the same and the frame or spider carrying said sections of slitted pipes, air-supply pipes arranged in the sides of said tank at diametrically opposite points, and flexible connections between said air-supply pipes and said sections of slitted pipes to permit the same to be raised and lowered, substantially as described.

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

SIDNEY A. LOCKHART.

Witnesses:

H. N. PIERCE,
D. P. WEST.