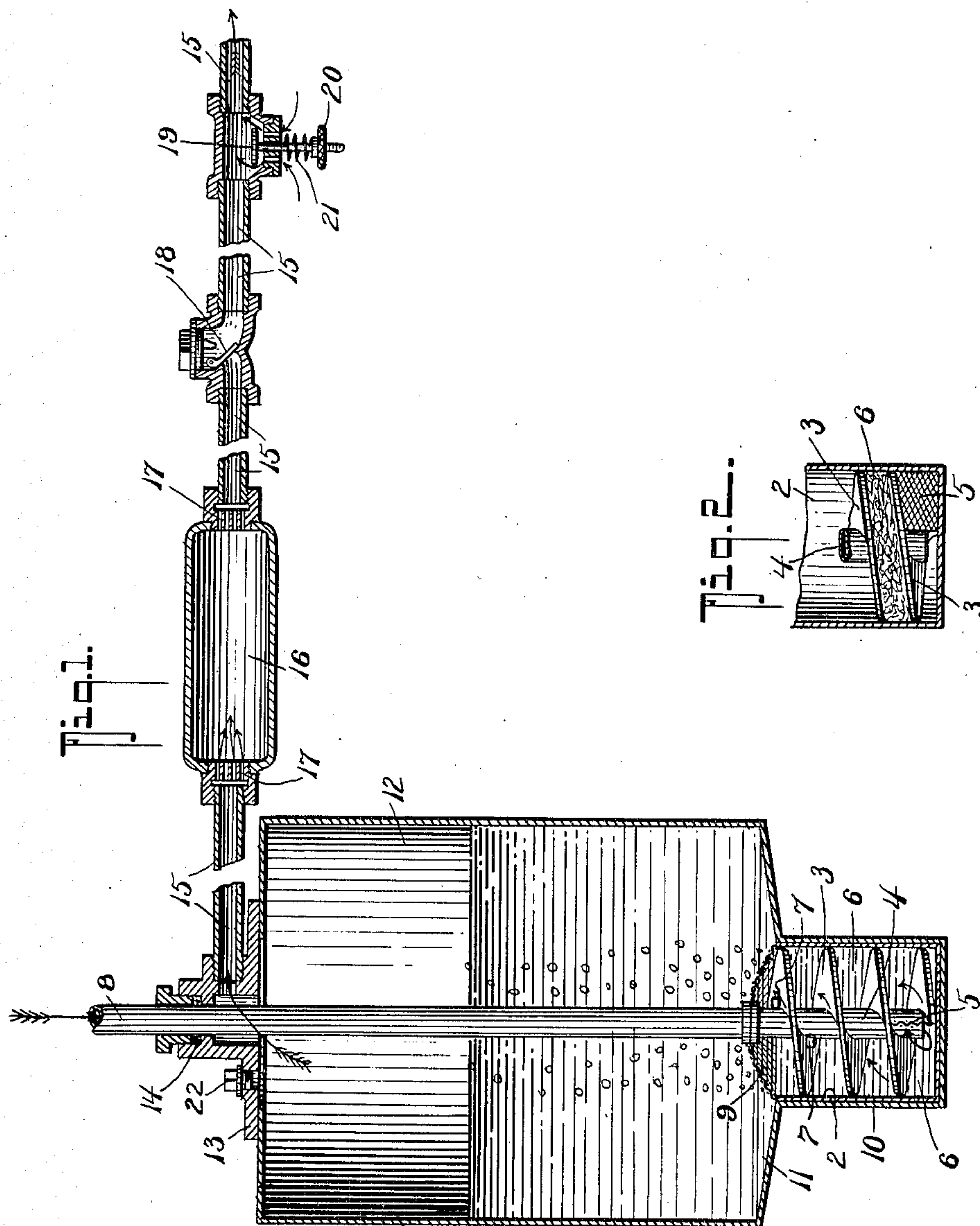


No. 860,522.

PATENTED JULY 16, 1907.

W. BROWN.
CARBURETER.

APPLICATION FILED JULY 14, 1906.



WITNESSES:

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CARBURETER.

No. 860,522.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed July 14, 1906. Serial No. 326,247.

To all whom it may concern:

Be it known that I, WILLIAM BROWN, a citizen of the Dominion of Canada, residing at the city of Vancouver, in the Province of British Columbia, Canada, have in-
5 vented a new and useful Improvement in Carbureters, of which the following is a specification.

This invention relates to a carbureter designed for the generation of a hydro-carbon gas from any of the light hydro-carbon oils, and belongs to that class wherein
10 atmospheric air is passed through a hydro-carbon oil.

My improvements have been directed to the means whereby the air is brought into contact with the hydro-carbon oil under conditions which are favorable to the rapid generation of the gas and further to various de-
15 tails of construction by which the device is simplified and rendered safe; there are also various other novel features in my device to which attention is called in the following specification, reference being made to the drawings by which it is accompanied, Figure 1 being
20 a vertical axial section through the carbureter and its connected parts, and Fig. 2 a detail of the lower part of the air discharge into the carbureter.

The carbureter proper consists of a relatively small cylindrical casing 2 having a closed lower end within
25 which casing fits a thin flat close pitched spiral 3 on a central tubular stem 4. This spiral 3 extends below the end of the tubular stem 4 so that air passing down the tube may freely enter from the lower end of the tube into the spiral passage between the tube 4 and
30 the casing 2. The lower end of this spiral passage 6 is closed by a gauze screen 5 and is filled with cotton waste or other similar fibrous material. The spiral 3 is retained within the casing by screws or pins 7 so that it may be removed therefrom when required for
35 cleaning or recharging with the fibrous material.

The tubular stem 4 of the spiral projects at the upper end beyond the casing 2 and into it is threaded a pipe 8 through which air is delivered to the carbureter. The casing 2 with its inclosed spiral 3 is introduced
40 into a cylindrical well 10 in the bottom 11 of an oil tank 12, the bottom 11 being sloped towards the center as shown in the drawing so as to drain the oil toward the well.

An upwardly convex gauze screen 9 is secured to the
45 pipe 8, or appropriately in the joint between the pipe 8 and the tubular stem 4 of the spiral, the outer edge of which screen extends beyond the well 10 and rests upon the bottom 11 of the tank.

The air pipe 8 extends upward through a gland pack-
50 ing in a removable cover 13 in the closed upper end of the tank 12, the opening which the cover 13 closes being of such size as will permit of the casing 2 with its gauze screen 9 being readily entered or withdrawn therethrough when required for cleaning or recharging
55 with the fibrous material.

The cover 13 is chambered upward toward the gland round the pipe 7 as at 14, and a pipe connection 15 is taken from it to convey the generated gas to the engine or other service.

The foregoing description embodies the essential
60 features of the carbureter which consist of the means whereby the air is delivered upward through a spiral passage charged with a fibrous material which fibrous material is maintained in a saturated condition with the hydro-carbon oil by immersion of the charged spiral in
65 the well at the bottom of the reservoir tank, and in the upwardly convex gauze screen 9 which collects and distributes the gas as it emerges from the spiral passage and avoids the bubbling noise common in carbureters of the class where rapid generation is called for. The
70 carbureter however, although applicable to other purposes has been particularly designed for use with an internal combustion engine and the air will be drawn through the carbureter by the suction of the piston which fills the cylinder with the explosive charge.
75

To avoid the pulsation of the engine affecting the carbureter, I introduce into the pipe 15 which connects the carbureter with the engine an elongated chamber
80 16 in the ends of which where the pipes are connected I provide a bushing or nipple having a series of fine perforations 17 through which the gas must pass, which series of perforations is intended to preclude the possi-
85 bility of back-firing passing to the chamber 16 and from there to the reserve of gas in the upper part of the carbureter tank 12.

Next to the chamber 16 is a check valve 18 which will permit gas to pass toward the engine in the direc-
90 tion of the arrow but will check its return; and beyond this check valve is an air suction valve 19 which will admit atmospheric air to the pipe 15, the valve 19 being
95 opened by the pulsation of the engine and the amount of air admitted regulated by a nut 20 compressing the light spring 21.

In the operation of the device the tank 12 is filled
95 with hydro-carbon oil through the plug 22 and saturates the fibrous material in the spiral passage 6. Air is either forced or drawn down the air pipe 8 and passing out at the lower end of the tubular stem 4 enters through the screen 5 into the spiral passage 6 and passes upward
100 through the fibrous charge to collect and be discharged through the gauze screen 9 into the liquid hydro-carbon oil in the tank 12. The upper part of the tank 12 forms a storage reservoir from which the gas is with-
105 drawn as required through the chambering 14 and the pipe 15. Passing through the elongated chamber 16 and check valve 18, it derives the required amount of atmospheric air through the valve 19 which may be ad-
justed to give the required explosive mixture.

Having now particularly described my invention
and the manner of its application and use, I hereby de- 110

clare that what I claim as new and desire to be protected in by Letters Patent, is:

1. As a means for generating a hydro-carbon gas, a closed tank having a relatively small cylindrical well in the bottom, a casing adapted to fit the cylindrical well which casing has a spiral passage charged with fibrous material, means for delivering air to the lower end of the spiral passage, and means for delivering the generated gas from the upper part of the tank.
2. As a means for generating a hydro-carbon gas, a closed tank having in its bottom a cylindrical well, a casing adapted to fit the cylindrical well in the bottom of the tank, a spiral passage in such casing charged with an absorbent material, an air pipe passing downward through the tank and delivering within the casing at the lower end of the spiral passage, a gauze screen upwardly convex over the top of the well and its inclosed casing, and means for delivering the generated gas from the upper part of the oil tank.
3. As a means for generating hydro-carbon gas, a

closed oil tank having a relatively small cylindrical well in the bottom, a casing adapted to fit the cylindrical well, a thin flattened spiral within the casing forming a spiral passage from top to bottom of it, a gauze screen across the lower end of the spiral passage, a central air pipe passing downward through the oil tank and delivering at the lower end of the spiral passage in the casing, an upwardly convex gauze screen secured to the air pipe and having its outside edge resting on the bottom of the tank outside of the well, a gas delivery pipe from the upper part of the tank, an elongated vessel to the opposite ends of which the delivery pipe is connected, a back check valve connected with said elongated vessel, and an air suction valve in communication with said back check valve, substantially as shown and described.

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

WILLIAM BROWN.

Witnesses:

ROWLAND BRITAIN,
ROBERT G. BROWN.