

No. 777,390.

PATENTED DEC. 13, 1904.

A. J. O'SHEA.  
CARBURETER.

APPLICATION FILED FEB. 25, 1904.

NO MODEL.

Fig 1

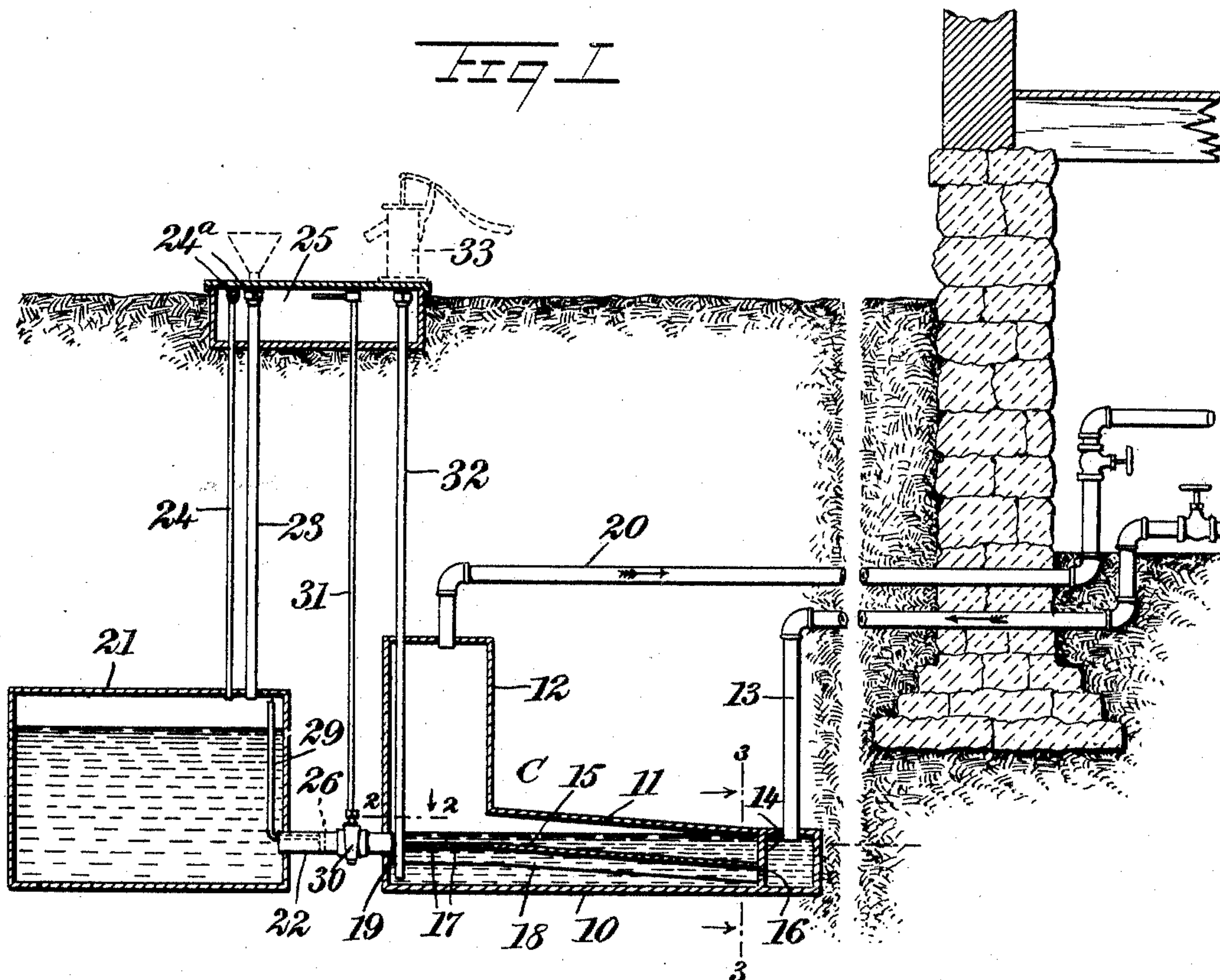


Fig 4

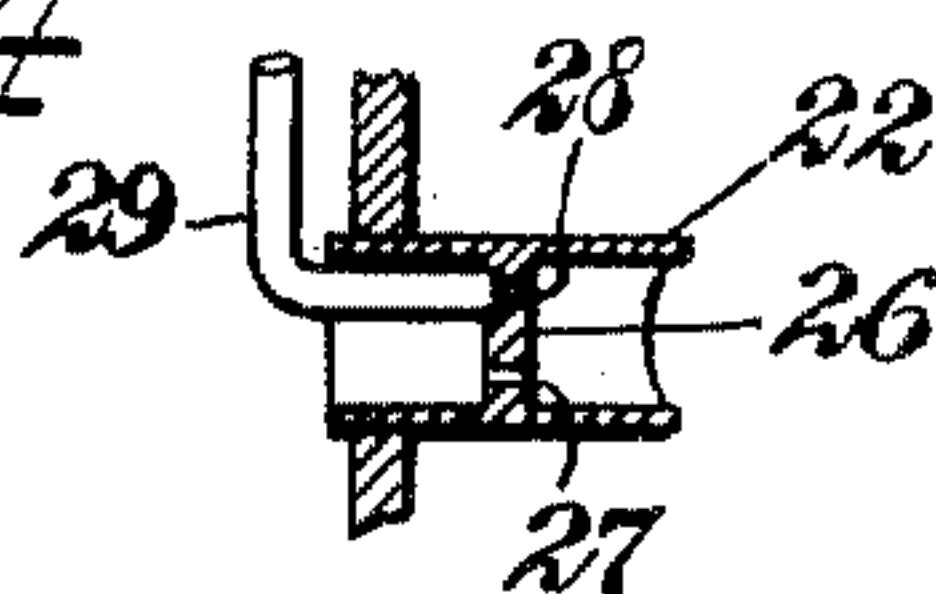
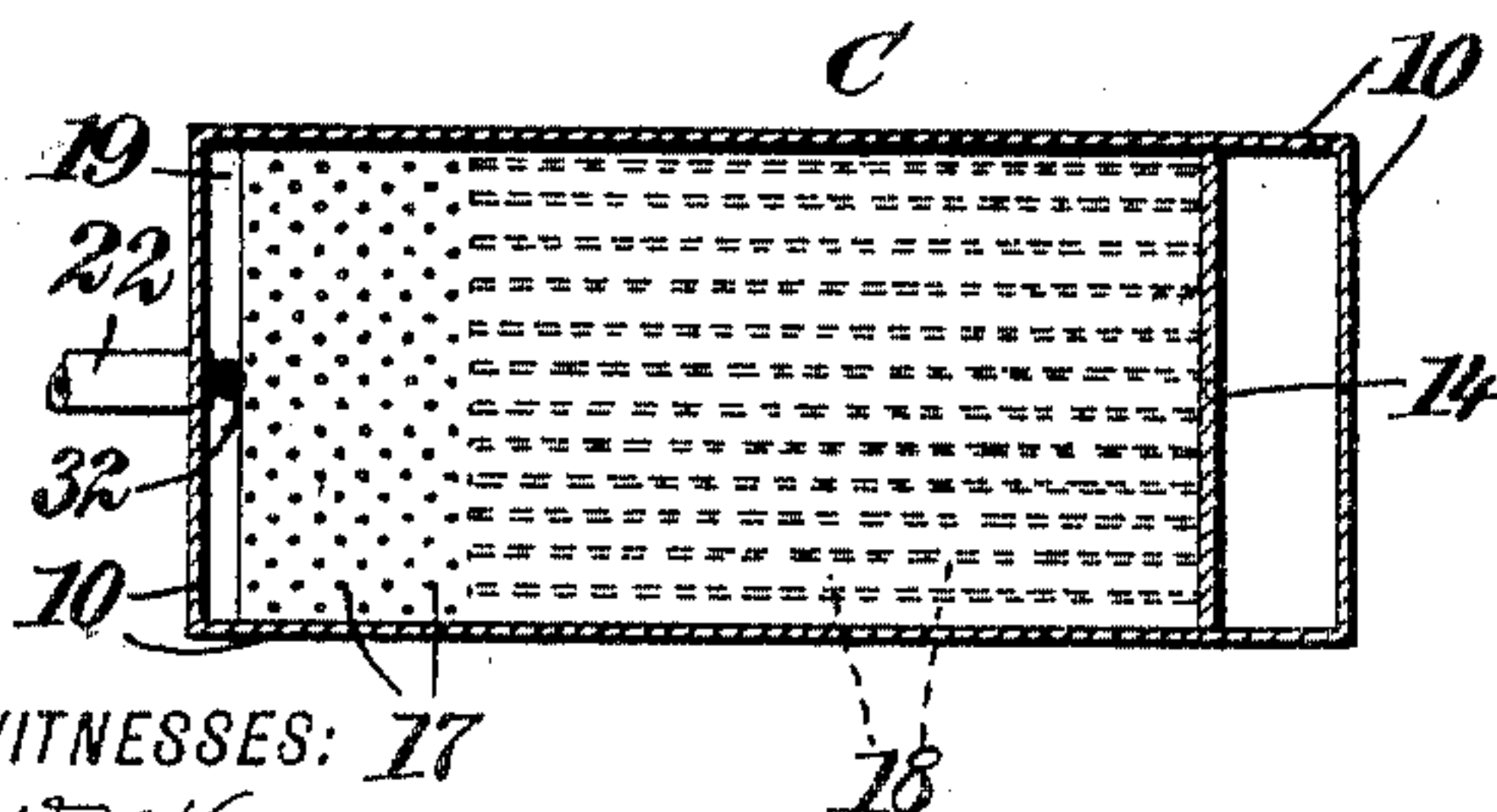


Fig 2

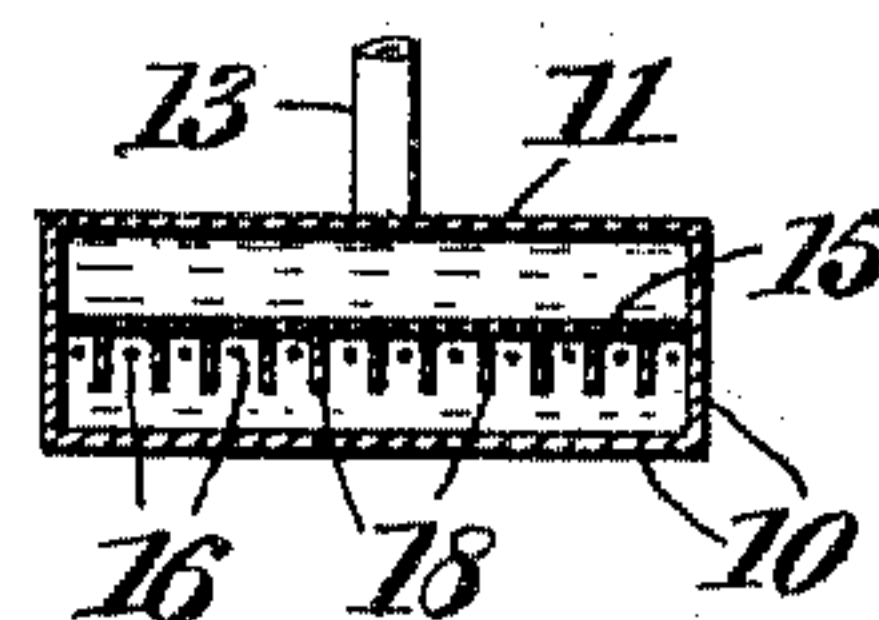


WITNESSES: 17

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Fig 3



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## UNITED STATES PATENT OFFICE.

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## CARBURETER.

SPECIFICATION forming part of Letters Patent No. 777,390, dated December 13, 1904.

Application filed February 25, 1904. Serial No. 195,176. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW J. O'SHEA, a citizen of the United States, and a resident of Fargo, in the county of Cass and State of North Dakota, have invented a new and Improved Carbureter, of which the following is a full, clear, and exact description.

My invention relates to carbureters, and more particularly to those adapted for use with such stationary apparatus as illuminating plants and the like. Its objects are to increase the efficiency of and to generally improve such devices.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through a portion of a plant in connection with which appears one embodiment of my invention. Figs. 2 and 3 are sectional detail views on the lines 2 2 and 3 3, respectively, of Fig. 1; and Fig. 4 is a fragmentary section through the supply-pipe partition.

C designates the carbureter proper, which is preferably made of metal and adapted to be buried beneath the ground. It furnishes a receptacle having bottom and side walls 10, into which may be delivered a volatile fluid—for example, gasoline—which will stand at about the level therein indicated in Fig. 1. The lower portion of the carbureter is shown as of generally rectangular form, elongated in one direction and having an inclined top wall 11, which slopes upwardly to a chamber formed at one end in an extension 12, rising to some distance above the main body of the carbureter. Into the opposite end opens a supply or inlet pipe or conduit 13, through which air under suitable pressure may be delivered from a source not shown. The supply-pipe preferably delivers into a chamber formed between one end of the receptacle and a substantially vertical partition 14, extending completely across said receptacle. From the vertical partition between the side walls of the receptacle and forming a closure there-with extends a partition 15, which, though substantially horizontal, may be somewhat inclined upwardly conveniently at about the

same angle as the top of the receptacle, the extremity opposite the partition being shown as but slightly submerged beneath the fluid. This inclination serves to induce a movement of the air in the desired direction.

Through the partition 14 is formed a horizontal series of openings 16, and at the opposite end of the partition 15, removed from the sides furnishing the closure and situated beneath the extension 12, are a number of comparatively small openings 17, conveniently arranged in parallel rows. Depending from the under side of the horizontal partition and located between the openings 16 are dividers or short depending partitions 18. At the end of the partition 15, between it and the wall of the receptacle, may be left a space 19, allowing a more or less free circulation of the fluid.

From the top of the extension 12 leads an outlet or discharge pipe or conduit 20, serving to deliver the carbureted air to the associated apparatus.

Adjacent to the carbureter, it being also buried beneath the ground, is a supply-tank 21, preferably of metal and of sufficient size to contain the desired quantity of gasoline. It is connected to the carbureter by a pipe or conduit 22, which is shown as opening into the receptacle at the level at which it is desired the fluid therein shall stand. Rising from the tank is a pipe 23, through which it may be filled, and a vent-pipe 24, both of which may be provided with suitable caps 24<sup>a</sup> for normally closing them. The upper ends of these pipes are preferably contained within a box 25, depressed below the surface of the ground and provided with a cover.

Within the conduit 22 is a transverse partition 26, provided with a plurality of openings, here shown as two in number, the lower one, 27, of which furnishes a passage for the fluid, while the upper one, 28, has connected with it a vent-pipe 29, which extends through the conduit and supply-tank to a point above the level of the contained fluid. Between the partition and the carbureter a valve 30 is preferably placed, having connected to its stem a rod 31, which rises to and within the box 25 and may there be provided with an operating-lever. This box may also contain



the end of a normally closed or capped pipe 32, having its lower end extending into close proximity with the bottom of the carbureter-receptacle. To this pipe a pump (indicated in dotted lines at 33) may be attached for the purpose of withdrawing, if desired, the contents of the receptacle.

In use air is supplied at a suitable pressure through the pipe 13 to the chamber at the rear of the partition 14, and passing through the openings therein travels beneath the horizontal partition, being guided and quite uniformly distributed by the dividers, which form channels, leading it to the openings 17. Through these it rises through the fluid, it having moved a horizontal distance greatly in excess of the vertical, and therefore has encountered but comparatively slight resistance, resulting in little back pressure on the air-supply. In this passage it is brought into extended and effective contact with the volatile fluid and taking it up becomes carbureted, so that when it enters the extension 12 it is in a proper condition for combustion and is led to the desired point for use by the pipe 20.

It will be evident that the fluid-pressure in the supply-tank constantly tends to produce a flow through the partition-opening 27, and this will continue until the level rises to the opening 28, at which time the vent-pipe will become closed and the flow will consequently stop. As the fluid in the carbureter evaporates or is taken up by the passing air the level will fall, freeing the opening 28, when the flow will resume until the original height has been restored.

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

1. A carbureter comprising a receptacle having a substantially vertical partition situated near one end thereof and being provided with a series of openings, a substantially horizontal partition extending from the vertical partition above the openings toward the opposite end of the receptacle, said horizontal partition being imperforate at the end adjacent to the vertical partition and having at the opposite end a plurality of comparatively small separated openings, and means for introducing air upon the outer side of the vertical partition.

2. A carbureter comprising a receptacle having a substantially vertical partition situated near one end thereof and being provided with a series of openings, a substantially horizontal partition extending from the vertical parti-

tion above the openings toward the opposite end of the receptacle, said horizontal partition being imperforate at the end adjacent to the vertical partition and having at the opposite end a plurality of comparatively small separated openings, and dividers depending from the horizontal partition and extending from the openings in the vertical partition and separating those in the horizontal partition into rows.

3. A carbureter comprising a receptacle provided with a chamber at one end having an opening in its inner wall, a pipe delivering to the chamber, a partition extending from the wall of the chamber above the opening therein and between the sides of the receptacle but stopping short of the end wall of the receptacle, said partition having openings removed from those in the chamber-wall, and a pipe leading from the receptacle above the partition.

4. The combination with a carbureter, of a fluid-supply tank therefor, a conduit connecting the carbureter and tank, and a pipe extending from the tank into the conduit from a point above the fluid-level in the tank.

5. The combination with a carbureter, of a fluid-supply tank therefor, a conduit leading from the carbureter at the level it is desired to maintain to the tank, and a pipe extending through the conduit into the tank.

6. The combination with a carbureter, of a fluid-supply tank therefor, a conduit connecting the carbureter and tank, a vent-pipe extending from the conduit, and a valve in the conduit between the vent-pipe and carbureter.

7. The combination with a carbureter, of a fluid-supply tank therefor, a conduit, a partition in the conduit provided with a plurality of openings, and a pipe leading from one of the openings and connected with the supply-tank.

8. The combination with a carbureter, of a fluid-supply tank therefor, a conduit, a partition in the conduit provided with upper and lower openings, and a pipe leading from the upper opening to a point above the level of the fluid in the tank.

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

ANDREW J. O'SHEA.

Witnesses:

S. H. COBB,  
JNO. M. RITTER.