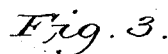
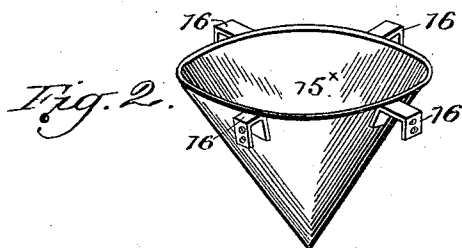
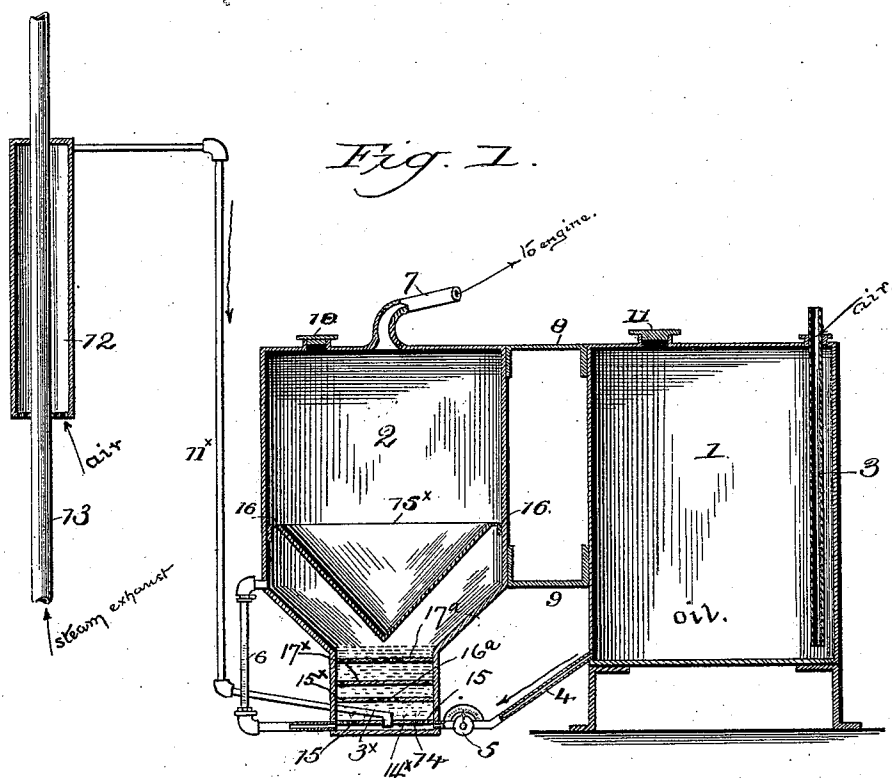


(No Model.)

J. O. SPRAGUE & J. W. GUTHRIE.
CARBURETOR.

No. 527,085.

Patented Oct. 9, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES O. SPRAGUE AND JOHN W. GUTHRIE, OF SACRAMENTO, CALIFORNIA.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 527,085, dated October 9, 1894.

Application filed February 12, 1894. Serial No. 499,946. (No model.)

To all whom it may concern:

Be it known that we, JAMES O. SPRAGUE and JOHN W. GUTHRIE, citizens of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Carburetors; and we do hereby 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 carburetors for gasoline engines, and has for its object to provide simple and effective means for controlling the flow or feed of the carburetor in accordance with the movement of the engine, and also to otherwise facilitate the operation of such devices.

With these and other objects in view the invention consists of the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings: Figure 1 is a sectional elevation of an apparatus embodying the invention. Fig. 2 is a detail perspective view of a fender used in connection with the apparatus. Figs. 3 and 4 are detail plan views of disks employed in connection with the carburetor.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

Referring to the drawings, the numerals 1 and 2 designate two tanks, the tank 1 being a reservoir constructed of galvanized iron, and adapted to hold a supply of gasoline. The said reservoir is made air-tight, and has a small air tube 3 extending thereinto from the top to near the bottom thereof, the upper end of the said air tube being exterior of the tank. The tank 2 contains the carburetor 3^x which is hopper shaped and attached to the bottom of said tank 2, and the lower portion of one side thereof is connected with the bottom portion of the tank 1 by a small tube 4 having therein a gage cock 5 to regulate the flow of the gasoline from the reservoir to the carburetor. On the opposite side of the lower portion of the carburetor is a glass gage 6 which is intended to show the height of the gasoline in said carburetor, and at the top of the tank 2 is an outlet pipe 7 which is adapted

to be connected with the engine. The tanks 1 and 2 are attached to each other by braces 8 and 9 and said tanks are also supplied with screw caps 10 and 11, as fully shown, and for the purposes which will be manifest. Extending in to one side of the lower portion of the carburetor is a pipe 11^x which runs from a heater 12 having an upper closed top and a lower perforated bottom, and consists of a casing surrounding or covering a portion of the exhaust pipe 13 from the gas engine. The air flows upward through the perforated bottom of the said heater, and becomes warm by surrounding the exhaust pipe and then passes out through the tube 11 to the carburetor, being conveyed to a chamber 14, located in the bottom portion of the carburetor and having a disk 14^x with peripheral perforations 15. Above the disk 14^x is a second disk 15^x having central perforations 16^a, and above disk 15^x are other disks 17^x and 17^a similar respectively to disks 14^x and 15^x. By this means the air is more thoroughly forced through the oil and carburation established. Within the tank 2, above the oil level, preferably, is suspended an inverted conical fender 15^a, which is secured to the sides of the tank 2 by ears 16, it being seen that the upper edge of said fender stands away from the adjacent portion of the inner surface of the tank 2 to permit the gas to have unimpeded upward flow evenly and slowly into the tank 2.

In operation the gage cock is set according to the amount of gas used by the engine and an automatic feed of fresh gasoline from the reservoir to the carburetor is established as long as the engine is running. As soon as the engine stops, the flow of gasoline stops automatically as the air tube entering the tank 1 only allows as much air to enter the said tank as the amount of gasoline displaced. The gasoline stands in a carburetor up to about the dotted line, which is on a level with the bottom of the air tube into the tank 1 and as the engine displaces the gas in the top of the carburetor air is sucked through the air tube 11 into the distributor, and out again through the perforated holes in the bulb or chamber to which the lower end of the air tube 11 is attached, and thence through the gasoline, finally finding its way to the upper part of the carburetor to take the place

of the gas displaced by the engine. It will be seen that as the air going through the pipe 11 is heated, it will consequently heat the gasoline in the carburetor, and cause a carburation of the gasoline and insure a more thorough mixture with the air.

Having thus described the invention, what is claimed as new is—

1. A carburetor having an outlet pipe connecting with the upper portion thereof, and having the lower end reduced and provided with a series of plates at different levels and perforated at different points to cause the inflowing air to make a tortuous circuit, an inverted conical fender disposed above the series of plates, an oil inlet pipe attached to the lower portion of the carburetor, and an air inlet pipe communicating with the carburetor at the lowest point below the aforesaid series of plates, substantially as set forth.

2. A carburetor having its lower end reduced, a series of plates disposed at different levels in the lower end of the carburetor, and perforated at different points, inverted conical shaped fender arranged above the series of plates, a gage to determine the level of the hydrocarbon, and tube connecting the lower end of the reservoir with the lowest portion of the carburetor, an air inlet pipe communicating with the lower end of the carburetor below the series of plates, a heater

for raising the air to the required temperature prior to entering the carburetor, and an outlet pipe communicating with the upper end of the said carburetor, substantially as set forth.

3. The herein shown and described carburetor, composed of a reservoir and carburetor placed side by side, the reservoir having an air tube therein, a tube connecting the lower end of the reservoir with the lower end of the carburetor and provided with a gage cock, a series of plates located in the lower end of the carburetor and arranged at different relative heights and perforated at different positions, an inverted conical shaped fender arranged above the said series of plates, a gage to determine the level of the hydrocarbon in the carburetor, an inlet pipe for supplying air to the lowest position of the carburetor, a heater for raising the temperature of the air to the proper degree, and an outlet pipe communicating with the upper end of the carburetor, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

JAMES O. SPRAGUE.
JOHN W. GUTHRIE.

Witnesses:

WILLIAM D. LAWTON,
I. E. GORMAN.