

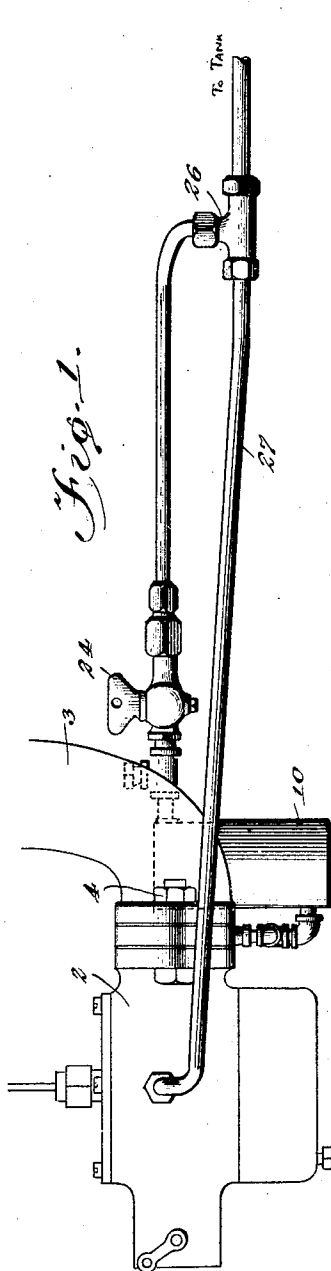
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P. F. SIEGMANN

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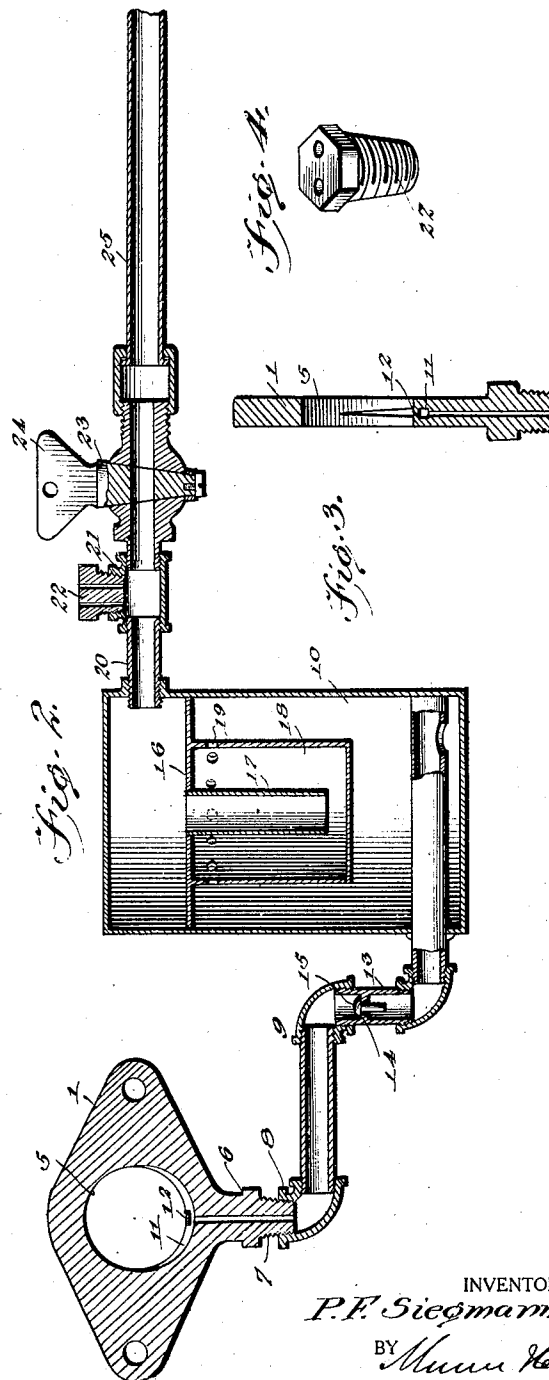
ATTACHMENT FOR GAS ENGINES

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WITNESSES

Laurence D. Hankin
W. E. Beck, Jr.



INVENTOR

P. F. Siegmann

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

PAUL FRED SIEGMANN, OF SAN ANTONIO, TEXAS.

ATTACHMENT FOR GAS ENGINES.

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This invention relates to an improved attachment for gas engines.

An object of the invention is the provision of a novel attachment for combining a mixture of air and fuel with the gases from the carbureter between the carbureter and the manifold to produce a more powerful mixture and improve running conditions of the engine.

A further object of the invention is to provide a device of this character which is composed of few and simple parts, which may be easily assembled and installed on an engine by an unskilled person and will not easily get out of order.

With these and other objects in view as will appear as the description proceeds this invention consists of the novel features of construction, combination of elements and arrangements of parts hereinafter to be fully described and claimed.

A full and complete understanding of the invention may be obtained from a consideration of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification, it being understood that while the drawing shows a practical form of the invention, the latter is not to be confined to strict conformity with the showing thereof, but may be changed or modified, as long as such changes and modifications mark no material departure from the salient features of the invention as specifically pointed out and claimed.

In the drawing in which similar reference characters designate similar parts throughout the several views:

Figure 1 is a side elevation of the device of this invention in operative association with the carbureter and manifold of a gas engine,

Figure 2 is an enlarged longitudinal vertical sectional view of the device,

Figure 3 is a transverse vertical sectional view of the atomizer, and,

Figure 4 is an enlarged perspective of the perforated plug.

Referring to the specific embodiment of the invention illustrated in the accompanying drawing the numeral 1 designates the atomizer plate which is formed to fit between the carbureter 2 and the manifold 3 of a gas engine and is held in position by bolts 4. The plate 1 is apertured as at 5

to align with apertures (not shown) in the carbureter and manifold and is provided with a depending tube 6, the lower end of which is threaded as at 7 for connection to the elbow 8 of the pipe line 9 which enters the vaporizing tank 10 adjacent the bottom thereof.

A groove 11 communicating with the passage through the tube 6 is provided in the material of the plate 1 surrounding the lower half of aperture 5, and is bridged as at 12 to divide and direct fluid entering through the tube to each side so as to completely envelope the gases from the carbureter.

In the vertically disposed nipple 13 is an apertured partition 14, in which the tapered and headed pin 15 normally rests to close the passage through the line 9.

When the engine is running, the partial vacuum created in the manifold permits the fluid in the line 9 to force the pin 15 upwardly to a greater or less degree depending upon speed of the engine.

The lower end of the pipe line 9 disposed within the tank 10 is closed and provided with an aperture on its under side. The partition 16 divides the tank into two main compartments. Depending from the center of the partition 16 is a hollow tube 17. A container 18 depends from the partition 16 between the outer wall of the tank and the tube 17 and its only connection with the lower portion of the tank is through a series of spaced apertures 19 adjacent the top thereof. A nipple 20 connects the upper portion of the tank with the T connection 21, which receives the apertured plug 22 through which air is drawn into the tank. The valve 23 having an apertured operating lip 24 is screwed in the opposite end of the tube and may be operated by a rod passing through the dash or may be operated with the fingers. The end of the valve is connected by a pipe line 25 to a T connection 26, which is inserted in the main fuel supply line 27.

Great inconvenience has been experienced in starting engines by reason of the fact that the engine is cold and a richer mixture is needed to afford proper combustion. This device in addition to overcoming this difficulty by supplying additional air to the engine in combination with the original mixture, results in greater power with less fuel consumption.

It is evident from the foregoing description that the operation of the device is as follows:

In starting the engine the valve 23 is opened and the partial vacuum in the engine permits the fuel, through the pipe 25, and the air entering through the plug 22 to pass into the upper portion of the tank 10. The peculiar arrangement of the tank forces the fuel and air to thoroughly mix in their passage down through the tube 17, through the fuel which accumulates in the receptacle 18, out through the perforations 19 to the bottom of the tank, and through the pipe line 9 to the atomizer 1. The additional fuel and air furnished to the motor in this manner insures ready starting and as soon as the motor is started and running evenly the valve 23 may be closed and the entrance of air only through the atomizer into the mixture permits a greater amount of power for any given opening of the main carbureter valve.

I claim:—

1. A device of the character described comprising an atomizer plate having a central aperture and a depending tubular portion, means for securing said plate in operative position between the carbureter and manifold of a gas engine, said plate having an annular groove partly encircling the walls of said aperture and communicating with the inner end of the tubular portion, a bridge

formed integrally with the plate traversing said groove, a vaporizer tank having a fuel feed line near the top thereof, an air intake in said feed line, means within the tank for intimately mixing air and fuel, and means connecting the tubular portion of the atomizer to the lower portion of the tank.

2. A device of the class described comprising an atomizer adapted to be operatively positioned between the carbureter and the manifold of a gas engine, a closed vaporizer tank, independent fuel feed lines to the carbureter and to the vaporizing tank, a valve and a T-joint having an apertured plug associated therewith provided in one of said feed lines, and means connecting said atomizer to said tank and including a valve operable by the suction due to the vacuum in the engine.

3. An attachment for internal combustion engines comprising a closed tank, a partition dividing said tank into an upper and lower compartment, an open ended tube depending from the center of said partition, a container surrounding said tube and depending from the partition and having a series of spaced apertures near its top providing communication between said lower compartment and the container, means for admitting fuel and air into the upper compartment, and means permitting the passage thereof from the lower compartment to said engine.

PAUL FRED SIEGMANN.