May 18, 1926. 1,585,094

H. H. HENDRICKS

CARBURETOR

Filed Feb. 5, 1925

Fig. 1.

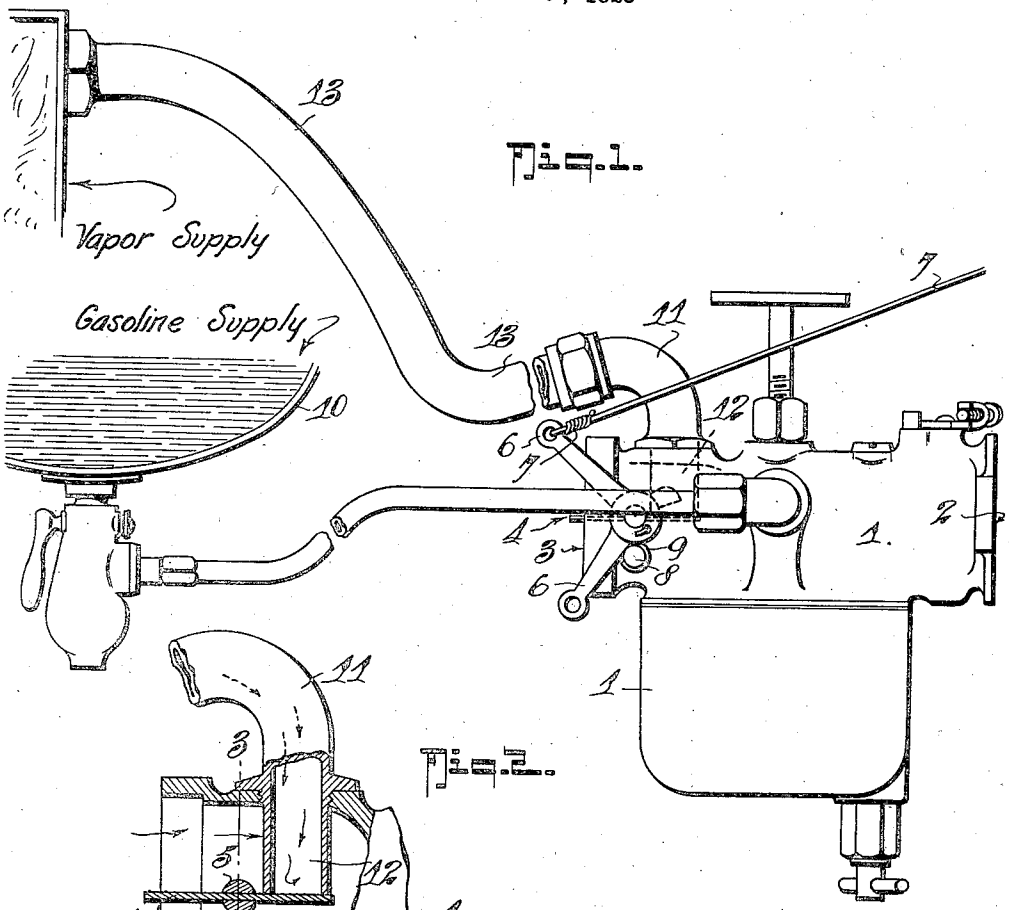
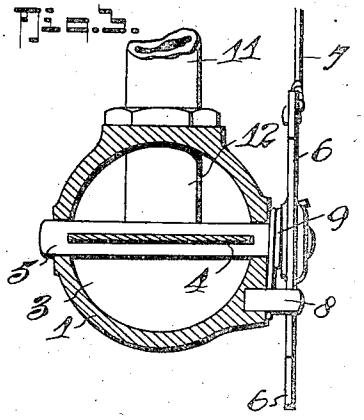


Fig. 2.

Fig. 3.



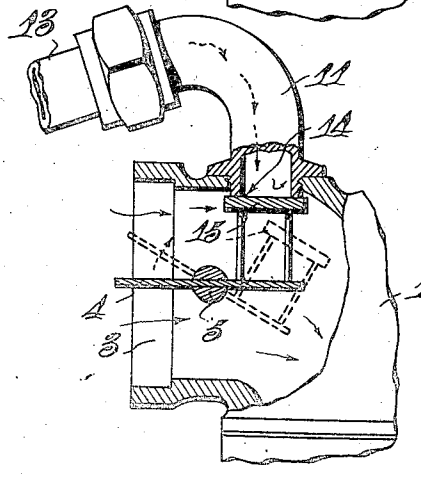


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CARBURETOR.

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The invention generally relates to carburetors and has for its object to provide a simple improvement therein effective in obviating induction into the engine to which the carburetor is attached of gasoline in liquid state, which undesirable condition is now commonly experienced upon exercise of air gate "choke" action in flooding the combustion chambers to aid starting.

The above stated object is efficiently accomplished by the structural details of improvement first fully described in the following specification, particularly pointed out in the claims appended thereto and illustrated in the accompanying drawing, in which:—

Figure 1 is a diagrammatic side elevation illustrating the application of the invention.

Figure 2 is an enlarged longitudinal section taken through the air passage into the carburetor.

Figure 3 is a cross section taken on the line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 2 and illustrates a modification of the invention.

In the drawing, in which like numerals of reference indicate like parts in all of the figures, 1 represents the carburetor which includes the usual gas passage 2, and air induction passage 3. The invention is adaptable to use on any of the well-known types of carburetors as they all include the passages 2 and 3 referred to, the said passages being gate controlled in the usual manner.

The air passage control gate is indicated by the numeral 4 and is in the nature of the usual butterfly valve horizontally pivoted across the passage on the pivot pin 5 upon the extended end of which is mounted the operating crank arm 6 movable, from a remote but convenient point, through the medium of the connection 7 which may be a rod, chain, or cord, as desired.

A stop lug 8 is provided and a spring 9, coiled about the pin and connected with the crank 6 and lug 8, serves to hold the gate 4 to its horizontal or full-open position with the said crank in engagement with the said lug.

The gasoline supply tank is indicated at 10.

An elbow 11 may be connected with that portion of the carburetor providing the air passage 3 and the said elbow is so mounted that the discharge end thereof extends approximately half way into the said air passage as at 12 or in position for being closed by a wing of the air gate 4 when in its full-open position. The connection 11 is conduit-connected as at 13 with any approved source of volatile vapor supply for the purpose of delivering such vapor from that source to the air passage 3 of the carburetor when the gate 4 is moved to the closed or near closed position, it being obvious that when the said gate is in its normal or open position it serves as a valve to close off such gasoline vapor communication.

I have found that much of the difficulty of starting an engine is due to lack of vapor. The use of the "choke," i. e., the manipulation of the air gate 4 in the air induction passage 3 to close off air induction, often causes the taking into the engine a suction of all-gasoline. This causes the taking in of gasoline in liquid form, the presence of which in the combustion chamber renders effective explosion very difficult, and also the passage of such liquid down past the pistons into the oil supply.

It is a known fact that the gasoline supply tank itself contains volatile vapor which drawn indirectly would, upon induction into the combustion chambers, render possible an immediate explosion, thus avoiding the necessity of flooding the carburetor with the resultant ills, some of which are above enumerated.

While I have found the connection with the gasoline tank itself to be quite effective, the use of a separate container carrying a volatile substance and which may be connected with the conduit 13, is also comprehended.

In making use of the invention, the operator, wishing to start his engine, pulls on the connection 7, thus closing the gate 4 and at once cutting off air induction and opening communication with the volatile vapor conduit 13 serving to induce passage of pure vapor into the combustion chambers of the engine. When this has been accomplished the operator slowly releases the connection 7 and the spring 9 opens the gate 4 thereby simultaneously opening the air passage 3 and closing off vapor communication by closing over the end of the extension 12.

Should it be deemed necessary, in order to secure the maximum air induction, to remove the obstruction formed by the half-way extension 12, that extension may be reduced as

indicated at 14 and a plunger plate 15, stilt connected to move with the gate 4, provided for the purposes explained.

The functioning of the invention for the purposes stated is effective and certain and does not alter in any way the usual practices of starting the engine other than in effecting the improvements stated.

What I claim is:

1. The combination with a carburetor having the usual air intake passage and the usual butterfly choke valve for controlling that passage and spring-held to the normal fully open position, of a tube having one end in communication with an explosive vapor supply and the other end thereof projected into the air intake passage of the carburetor just inwardly of the center of said choke valve and approximately half way across the intake passage whereby the said pipe end will be closed off by said valve when said valve is at its normal open position and opened to admit explosive vapor into the air intake passage when said valve is closed to choke-off air induction.

2. The combination with a carburetor having the usual intake passage and the usual butterfly choke valve for controlling that passage with means for normally holding the butterfly valve to the fully open position, of a tube having one end in communication with an explosive vapor supply and having the other end thereof projected into the air intake passage of the carburetor in proximity to said butterfly valve, said butterfly valve and said tube having associated parts so arranged that said pipe end within the passage will be closed off when said valve is at its normal position and will be opened by the movement of said valve away from its normal position to admit explosive vapor into the air intake passage at a place between the butterfly valve and the mixing chamber of the carburetor.

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