

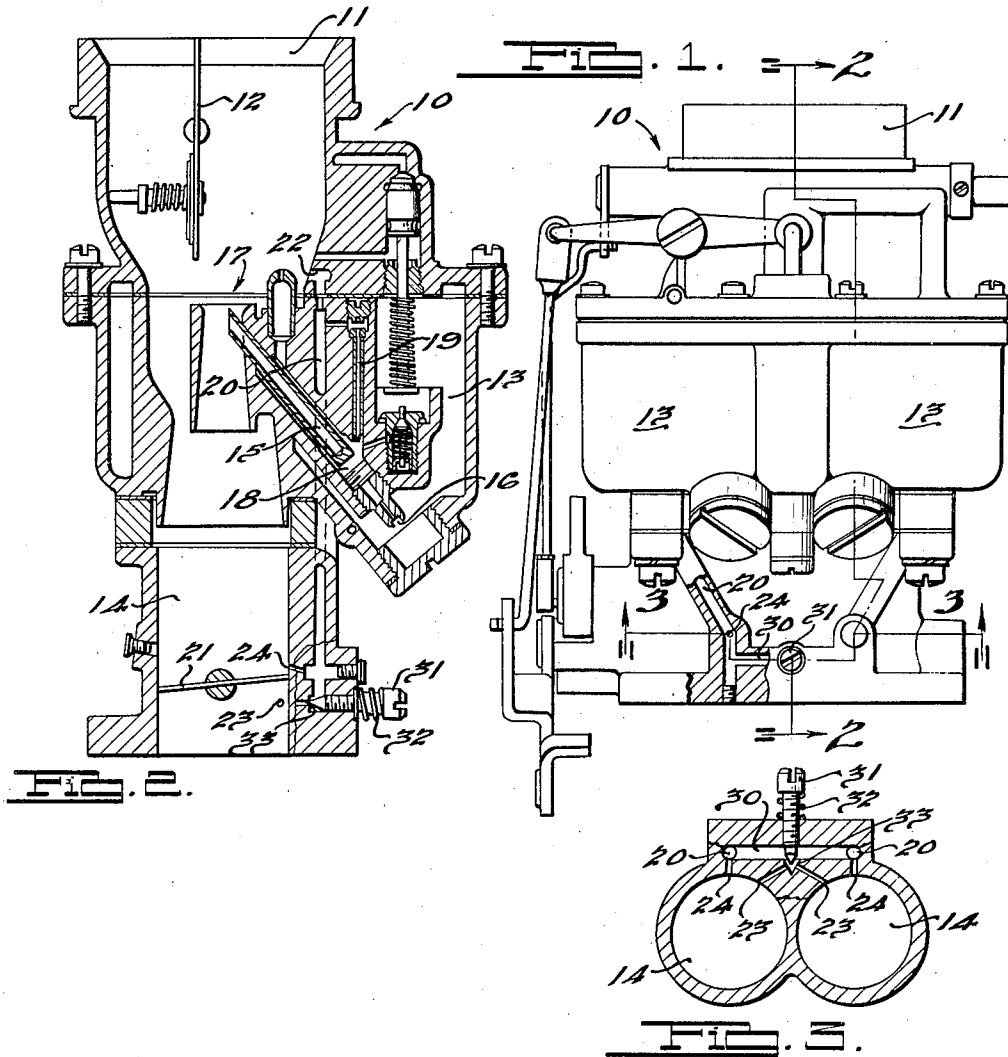
Sept. 22, 1942.

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2,296,697

CARBURETOR

Filed July 29, 1940



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UNITED STATES PATENT OFFICE

2,296,697

CARBURETOR

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Application July 29, 1940, Serial No. 348,095

1 Claim. (Cl. 261—23)

The present invention relates to the idling adjustment of a dual throat carburetor for internal combustion engines. Dual throat carburetors are in common use today and comprise a unit consisting of two carburetor devices under the control of a single set of throttle and choke devices. The usual practice in such dual throat carburetors is to provide a separate idle adjustment for each throat, and in practice it has been found extremely difficult, if not impossible, to regulate each idle adjustment to the same extent so that uneven firing of the engine controlled thereby results. It is the principal object of the present invention to place regulation of the idle discharge of the two throats of a dual throat carburetor under control of a single adjusting screw in order that exactly the same fuel and air mixture may be fed to each throat during idling operation of the engine.

An object of the present invention is to provide means whereby the regulation of idling is achieved by adjustment of a single valve controlling the amount of air mixed with the fuel, which valve is adjacent the transfer and idle ports of a carburetor having such ports, and being so positioned as to control the richness of mixture when the engine is idling.

The objects and advantages of the present invention should be more readily understood from the following specification taken in connection with the accompanying drawing which sets forth preferred embodiments of the invention and wherein like numerals refer to like parts throughout.

In the drawing,

Fig. 1 is a partially cut-away view in elevation of a dual throat carburetor having a form of the present invention applied thereto;

Fig. 2 is a vertical section taken substantially along line 2—2 of Fig. 1 and looking in the direction of the arrows;

Fig. 3 is a horizontal section taken substantially along line 3—3 of Fig. 1 and looking in the direction of the arrows.

The present invention is applied to a dual throat carburetor 10 having the usual air inlet 11 and choke device 12 under control of the usual choke operating mechanism. The carburetor is provided with a plurality of fuel inlet reservoirs 13 each of which feeds fuel into an associated throat 14 through the usual fuel inlet nozzle 15 and nozzle inlet 16. Fuel is sucked through the inlet 16 and nozzle 15 by the rush of air through a Venturi device broadly designated at 17. Incorporated in the inlet nozzle construction is a

well 18 from which extends vertically an idle snatcher tube 19 having an outlet communicating with an idling passage 20 leading downward to the vicinity of the throttle valve 21. Fuel is admitted to the idling passage 20 from the idle snatcher tube 19 by the aspirating effect of air drawn from the air inlet 11 through an opening 22 at the upper end of the idling passage 20, which movement of air is induced by the engine suction on the fuel jet 23 which is located below the throttle valve 21. A transfer port 24 opens into the throat 14 above the throttle valve 21 when in closed position from the idle passage 20 for the purpose of admitting fuel mixture to the engine during transfer from idling to high speeds. The construction heretofore described is old and well known in the art and details thereof are accordingly not fully illustrated nor described.

In Figs. 1 and 3 it may be seen that each idle passage 20 is connected to a common passage 30 in which is located a needle valve 31 provided with the usual spring take-up 32. The needle valve 31 is seated in a valve seat 33 at the side of passage 30 from which extend equally spaced idle inlet ports 23 of equal size, each port leading into one of the throats 14. As seen in Figs. 1 and 2 the transfer ports 24 are slightly above the throttle valve 21 so that air is drawn from air inlet 11 into each tube 20 through the ports 24 and added to the fuel mixture passing there-through. It can be seen from this construction that an equal quantity of identical proportions of fuel and air in idling amounts is admitted to each throat of the dual throat carburetor, and that the richness of the mixture may be controlled by regulating the single needle valve 31.

In this form of the device the transfer ports 24 through which air is admitted during idling operation became fuel injection ports when the throttle valve is opened slightly. Since it is the purpose of the transfer ports to feed fuel mixture to the engine in greater amount than required for idling prior to the time that the main inlet becomes effective it is desirable to increase the suction on the idle snatcher tube 19 at this moment.

Having described the preferred embodiment of the present invention, it should be apparent to those skilled in the art that the same permits of modification in arrangement and detail. All such modifications as come within the scope of the following claim are considered a part of my invention.

I claim:

A dual carburetor having a plurality of mixture inlet throats each adapted to be connected to a different section of an internal combustion engine and a plurality of carbureting devices each associated with one of said mixture inlet throats, a throttle valve in each mixture inlet throat, an idling fuel intake device associated with each carbureting device and including an inlet tube leading to an idle inlet port located in the wall of the associated mixture inlet throat effectively on the engine side of said throttle valve when in closed position whereby the engine suction becomes effective to draw an idling mixture through said idle inlet tube during idling operation of the engine, a transfer port communicating between each idle inlet tube and the associated

throat at a point on the opposite side of said throttle valve when the throttle valve is closed and through which air is drawn into each inlet tube when the throttle valve is closed, a mixture regulating passage connecting said plurality of idle inlet tubes below said transfer ports, and a single adjusting valve in said passage including a valve seat with which said idle inlet ports communicate directly and a needle valve cooperating with said valve seat for manually variably predetermining the amount of fuel mixture admitted to each of said idle inlet ports during idling operation whereby the amount of the mixture admitted through each of said idle inlet ports may be equally and simultaneously adjusted.

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