

amount of turbulence which also tends to give a more intimate mixture of the vapor molecules with the air.

I claim:

5 1. A carburetor for internal combustion engines comprising a vaporizing chamber, means for vaporizing fuel therein, a vapor-heating chamber, a pump for pumping vapors from the vaporizing chamber into the vapor-heating
10 chamber, a bypass for fuel vapors from the outlet side of said pump to the inlet side thereof, means for maintaining vapors in said vapor-heating chamber during normal operation of the carburetor under a predetermined pressure, a
15 passage for atmospheric air adapted to communicate with the intake manifold of the engine and means for introducing vapors from said vapor-heating chamber into said atmospheric air passage.

20 2. A carburetor for internal combustion engines comprising a vaporizing chamber, means for vaporizing fuel therein, a vapor-heating chamber, a pump for pumping vapors from the vaporizing chamber into the vapor-heating
25 chamber, a bypass for fuel vapors from the outlet side of the pump to the inlet side thereof, a pressure-regulating valve in said bypass for maintaining vapors in said vapor-heating chamber during normal operation of the carburetor
30 under predetermined pressure, a passage for atmospheric air adapted to communicate with the intake manifold of the engine, and means for introducing vapors from said vapor-heating chamber into said atmospheric air passage.

35 3. A carburetor for internal combustion engines comprising a vaporizing chamber, means for vaporizing fuel therein, a primary vapor-heating chamber, a secondary vapor-heating chamber, means for conducting vapors from the vaporizing
40 chamber to the primary vapor-heating chamber, means for conducting vapors from the primary vapor-heating chamber to the secondary vapor-heating chamber, means for maintaining vapors in said secondary vapor-heating chamber during
45 normal operation of the carburetor under a predetermined superatmospheric pressure, means for varying the pressure at which vapors are maintained in said secondary vapor-heating chamber independently of the speed of the engine,
50 a passage for atmospheric air adapted to communicate with the intake manifold of the engine, and means for introducing vapors from said secondary vapor-heating chamber into said atmospheric air passage.

55 4. A carburetor for internal combustion engines comprising a vaporizing chamber, means for vaporizing fuel therein, a vapor-heating chamber, means for conducting vapors from the vaporizing chamber into the vapor-heating chamber, means
60 for maintaining vapors in said vapor-heating chamber during normal operation of the carburetor under superatmospheric pressure, means for varying the pressure at which vapors are maintained in said vapor-heating chamber inde-
65 pendently of the speed of the engine, and means for introducing vapors from said vapor-heating chamber into the intake manifold of the engine.

70 5. A carburetor for internal combustion engines comprising a vaporizing chamber, means for maintaining a body of liquid fuel in the bottom of said chamber, means for introducing atmospheric air into the body of liquid in the vaporiz-

ing chamber whereby said air will bubble upwardly through the liquid fuel and vaporize a portion thereof, a vapor-heating chamber, means for conducting vapors from the vaporizing chamber into the vapor-heating chamber, means for maintain- 5 ing vapors in said vapor-heating chamber during normal operation of the carburetor under a predetermined superatmospheric pressure, means for varying the pressure at which vapors are maintained in said vapor-heating chamber independ- 10 ently of the speed of the engine, and means for introducing vapors from said vapor-heating chamber into the intake manifold of the engine.

6. A carburetor for internal combustion engines comprising a vaporizing chamber, means for 15 maintaining a body of liquid fuel in the bottom of said chamber, means for introducing atmospheric air into the body of liquid in the vaporizing chamber whereby said air will bubble upwardly through the liquid fuel and vaporize a 20 portion thereof, a primary vapor-heating chamber, a secondary vapor-heating chamber, means for passing vapors from the vaporizing chamber to the primary vapor-heating chamber, means for conducting vapors from the primary vapor-heat- 25 ing chamber to the secondary vapor-heating chamber, means for maintaining vapors in said secondary vapor-heating chamber under pressure, and means for introducing vapors from said secondary vapor-heating chamber into the intake 30 manifold of the engine.

7. A carburetor for internal combustion engines comprising a vaporizing chamber, means for 35 maintaining a body of liquid fuel in the bottom of said chamber, means for introducing atmospheric air into the body of liquid in the vaporizing chamber whereby said air will bubble upwardly through the liquid fuel and vaporize a portion thereof, a spiral primary vapor-heating chamber, a spiral 40 secondary-vapor-heating chamber, means for passing vapors from the vaporizing chamber into an outer spiral of the primary vapor-heating chamber, means for passing vapors from the center of the primary vapor-heating chamber to the center of the secondary vapor-heating chamber, 45 and means for passing vapors from an outer spiral of the secondary vapor-heating chamber to the intake manifold of the engine.

8. A carburetor for internal combustion engines comprising a vaporizing chamber, means for 50 maintaining a body of liquid fuel in the bottom of said chamber, means for introducing atmospheric air into the body of liquid in the vaporizing chamber whereby said air will bubble upwardly through the liquid fuel and vaporize a portion thereof, 55 atomizing nozzles positioned in said atomizing chamber, means for forcing liquid fuel through said atomizing nozzles whereby an additional amount of liquid fuel is vaporized, a primary vapor-heating chamber, a secondary vapor-heating 60 chamber, means for passing vapors from the vaporizing chamber to the primary vapor-heating chamber, means for passing vapors from the primary vapor-heating chamber to the secondary vapor-heating chamber, means for maintaining 65 vapors in said secondary vapor-heating chamber under a predetermined pressure, and means for passing vapors from said secondary vapor-heating chamber to the intake manifold of the engine.

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