June 2, 1931. A. O. TESCH 1,808,386

CARBURETOR

Filed Oct. 25, 1928 2 Sheets-Sheet 1

Fig. 1

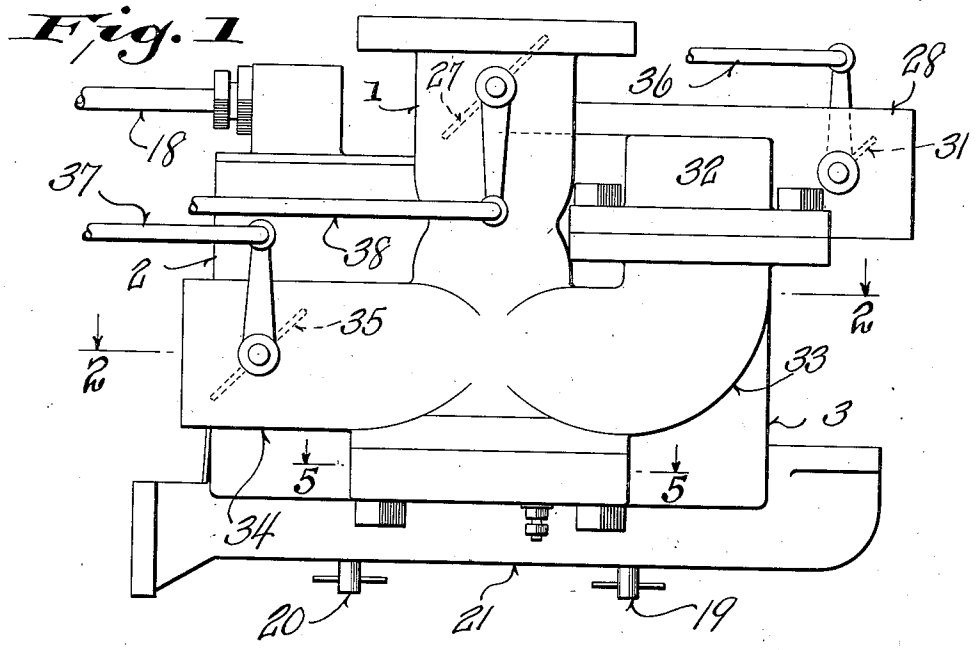
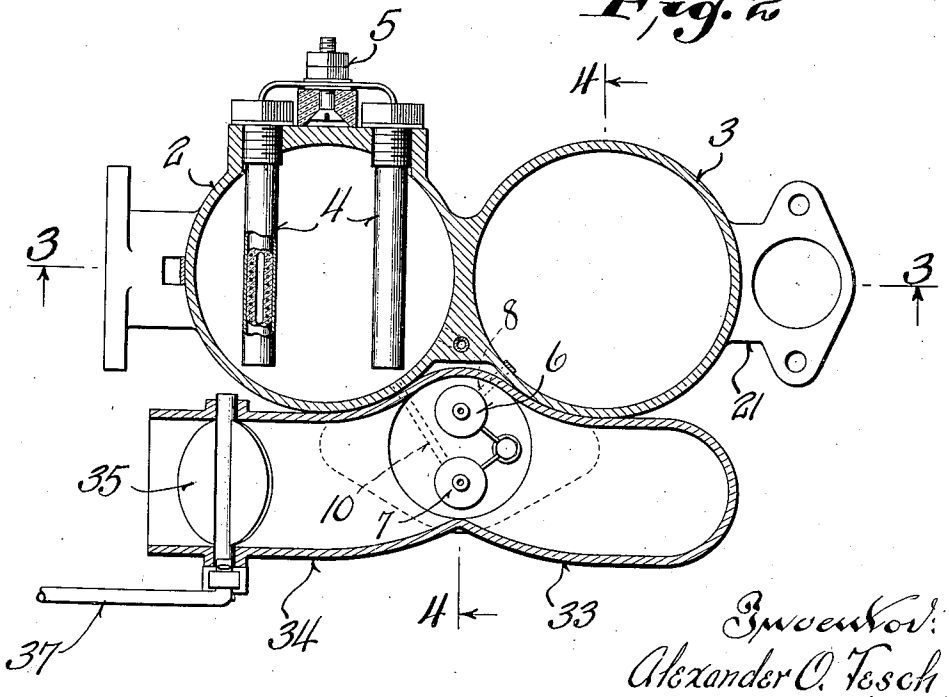


Fig. 2



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June 2, 1931. A. O. TESCH 1,808,386

CARBURETOR

Filed Oct. 25, 1928 2 Sheets-Sheet 2

Fig. 3

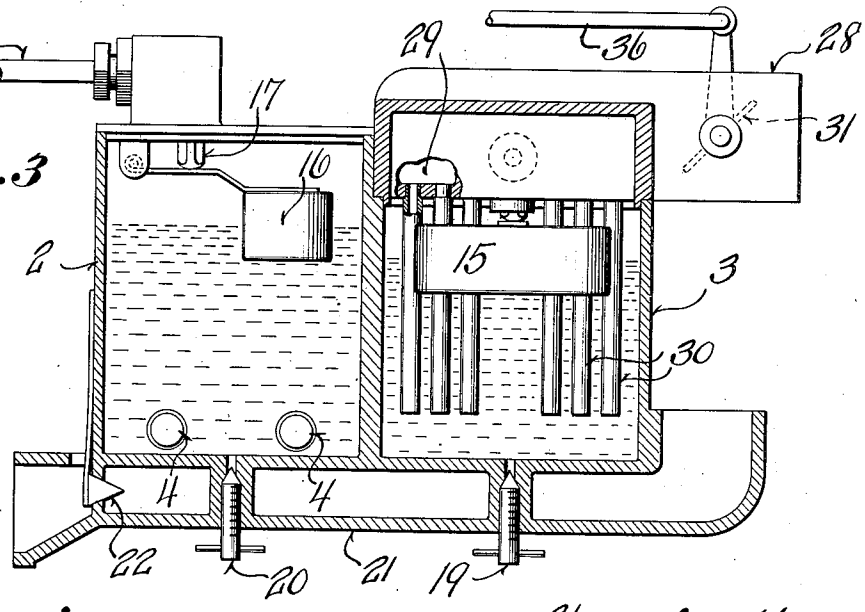


Fig. 5

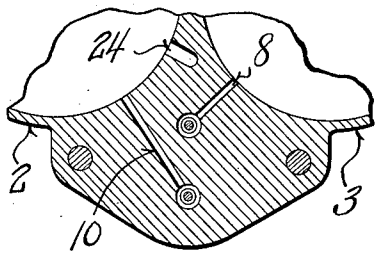


Fig. 4

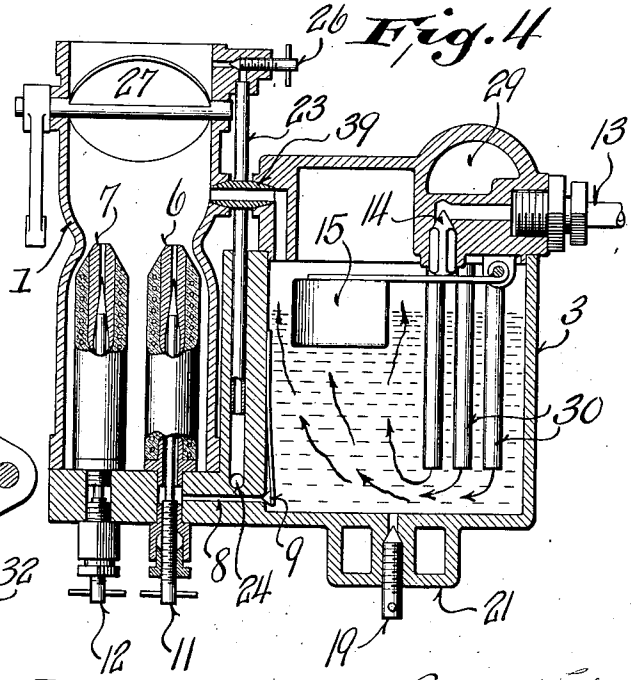
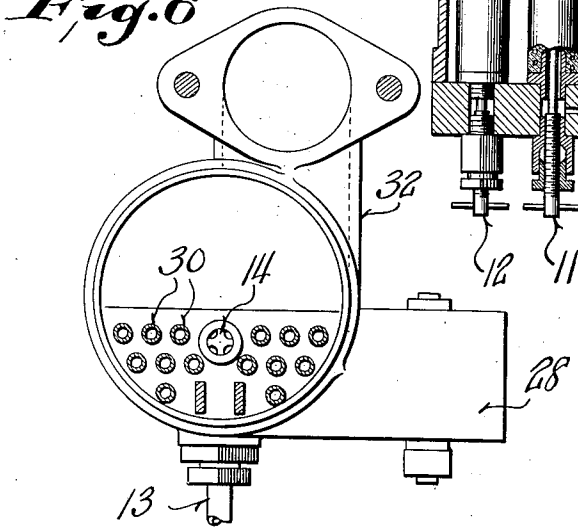


Fig. 6



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UNITED STATES PATENT OFFICE

ALEXANDER O. TESCH, OF MILWAUKEE, WISCONSIN

CARBURETOR

Application filed October 25, 1928. Serial No. 314,961.

This invention relates to carburetors.

Objects of this invention are to provide a novel form of carburetor which is so constructed that it will normally wash the air by passing the air through water prior to its arrival at the mixing chamber, and which is so made that it will allow the thorough moistening of air by means of a heated water nozzle connected with a water supply chamber through which the air is normally passed.

Further objects are to provide a fuel nozzle and a water nozzle both located in the mixing chamber and each heated by means of an electric heater surrounding the nozzle, so that the heating of the nozzle may be controlled and may be utilized in starting, for instance, or during other conditions where heat at this point is required.

Further objects are to provide a carburetor which is compact, which is provided with a fuel reservoir and a water reservoir, which is provided with electric heating means for heating the fuel reservoir, and which is also provided with an exhaust gas jacket for heating both reservoirs, that is, the gas and the water reservoirs, such heating being controlled by a thermostatic valve so that after the engine operates a certain length of time, the temperature is automatically controlled.

An embodiment of the invention is shown in the accompanying drawings in which:

Figure 1 is a side elevation of the carburetor.

Figure 2 is a sectional view on the line 2—2 of Figure 1;

Figure 3 is a sectional view on the line 3—3 of Figure 2;

Figure 4 is a sectional view on the line 4—4 of Figure 2;

Figure 5 is a sectional view on the line 5—5 of Figure 1;

Figure 6 is a view of the underside of the cover for the water reservoir, the air pipes being in section.

Referring to the drawings, it will be seen that the carburetor comprises a mixing chamber 1, a fuel reservoir 2, and a water reservoir 3. The fuel reservoir is provided with a pair of electric heaters 4 which have a terminal 5 connected thereto, the other side of the heaters being grounded.

Within the mixing chamber, a pair of nozzles are located, as indicated by the reference characters 6 and 7 (see Figure 4). The nozzle 6 is a water nozzle and is connected by means of the passageway 8 with the water reservoir 3. This passageway is controlled by a thermostatic valve 9, so that when the water arrives at the proper temperature, it will open, otherwise, the valve remains closed. The fuel nozzle 7 is connected to the fuel reservoir 2 by means of the passageway 10 (see Figures 2 and 5). The nozzles 6 and 7 are controlled by adjustable needle valves 11 and 12, respectively.

The water reservoir is supplied from any suitable source by means of the pipe 13, and the height of the water is controlled by the valve 14 operated from the float 15. The height of the fuel in the fuel reservoir 2 is controlled by the float 16 which controls the valve 17. The valve, in turn, controls the flow through the supply pipe 18.

The water and fuel reservoirs are provided with drain valves 19 and 20 respectively (see Figure 3). A heating jacket 21 is positioned below the two reservoirs and is adapted to receive exhaust gases from the engine so as to maintain the reservoirs warm. The temperature is controlled by means of a thermostatic valve 22 which cuts off the flow of the exhaust gases when the temperature arrives at a predetermined point.

If desired, a by-pass pipe 23 may extend from a duct 24 leading to the fuel reservoir 2, as shown in Figures 4 and 5. This pipe leads to an idler valve 26 (see Figure 4) which opens above the throttle valve 27.

The normal air intake is indicated by the reference character 28 in Figures 1, 3, and 6. This air inlet opens into the compartment 29 (see Figures 3 and 4) which communicates with the air pipes 30 which dip down into the water within the water reservoir 3. The flow of air through this inlet is controlled by the air valve 31.

The cover for the water reservoir, as indicated in Figure 4, is provided with a conduit or passageway 32 which opens into the con-

duit 33, such latter conduit or passageway opening into the lower portion of the mixing chamber, as shown most clearly in Figures 1 and 2.

Further, an auxiliary air inlet 34 is provided (see Figures 1 and 2) and the flow of air through this inlet is controlled by the auxiliary air valve 35. The air valves 31 and 35 are controlled by means of rods 36 and 37, respectively, which lead to any suitable point accessible to the operator. A similar construction is employed for the throttle valve, such throttle valve rod being indicated by the reference character 38.

Thus, the operator is enabled to readily control the direction of air flow entering the apparatus. For instance, he may permit the air to enter through the air inlet 28 in which case the air will pass downwardly through the water in the water reservoir and will be thoroughly washed and will thereafter pass to the mixing chamber. By closing the inlet 28 and opening the inlet 34, this washing of the air is stopped and the air is permitted to enter through the auxiliary air inlet 34.

From reference to Figure 4 it will be noted that a by-pass member 39 is provided between the upper portion of the water reservoir and the mixing chamber 1. This opening is above the nozzles, as is apparent from the figure. The opening permits the passage of moisture laden air into the mixing chamber.

Thus, the operator is enabled to control the incoming air. In addition to this, he is able to control both the heating of the fuel within the fuel reservoir 2 and also the heating of the nozzles 6 and 7.

This wide flexibility of control enables the operator to secure a variety of combinations for the carburetor, depending upon the conditions of temperature and humidity of the outside air and also depending upon the temperature of his engine.

It will be seen that a carburetor has been provided which is very compact although having the characteristics discussed in detail above, and which permits of an exact control of the condition of the mixture supplied by the carburetor.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. A carburetor comprising a fuel reservoir, a water reservoir, a heating jacket adjacent said reservoirs and adapted to receive exhaust gases, a fuel and a water nozzle connected to the respective reservoirs, electric heaters surrounding said nozzles, an electric heater within said fuel reservoir, and a mixing chamber within which said nozzles are located.

2. A carburetor comprising a fuel reservoir, a water reservoir, a heating jacket adjacent said reservoir and adapted to receive exhaust gases, a fuel and a water nozzle connected to the respective reservoirs, means for heating said nozzles, spaced electrical heaters arranged within said fuel reservoir, and a mixing chamber within which said nozzles are located.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin.

ALEXANDER O. TESCH.