

Aug. 23, 1927.

1,640,291

R. D. PERKINS

CARBURETOR

Filed Oct. 4, 1926

Fig. 2.

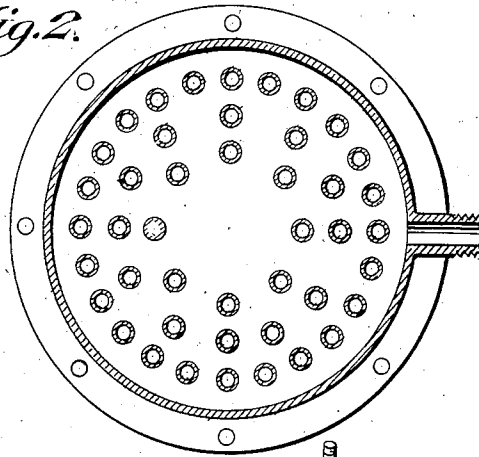


Fig. 1.

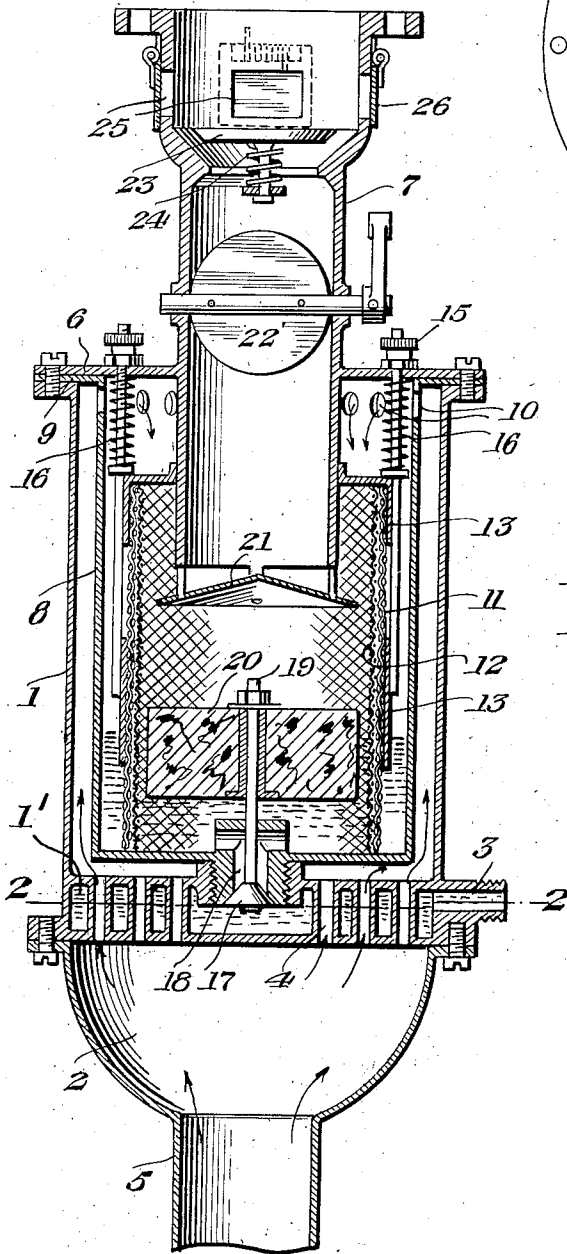
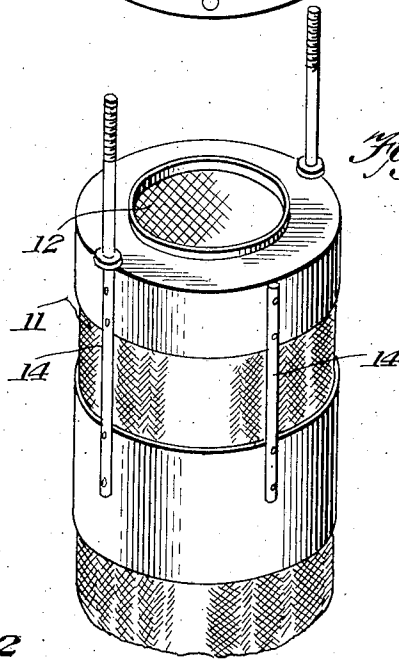


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARBURETOR.

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This invention relates to a carburetor, the general object of the invention being to provide a wick which extends into the gasoline or other fuel so that it will become saturated with the fuel, with means for drawing the air supply through the wick so that the air will be saturated with the fuel, thus providing a more perfect mixture of the fuel with the air and preventing dust and dirt from being drawn into the motor with the air.

A further object of the invention is to provide means for heating the gasoline or fuel by the heated air drawn from a stove so that the gasoline will be more volatile.

A further object of the invention is to so arrange the parts that the fumes from the heated body of gasoline can pass directly to the motor, thus making easier starting of the motor.

A still further object of the invention is to provide means for preventing back-fire from entering the carburetor.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a longitudinal sectional view through the improved carburetor.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a view of the wick and adjustable shield.

In these views, 1 indicates a casing which has a chamber 1' formed at its bottom which is adapted to be connected with a fuel supply by the nipple 3. The chamber is provided with the perforations 4 so that heated air drawn from a stove through the connection 5 and its enlarged end 2 will pass through the passages formed by the perforations and thus heat the gasoline in the chamber. A cover 6 is provided for the casing 1 and a pipe 7 is formed with the cover and has a portion extending well into the casing 1, with the outer end of the pipe being adapted to be connected with the intake manifold of a motor. A second casing 8

of considerably less diameter than the first casing, is arranged in the first casing with its flange 9 held between the top of the first casing and the cover 6. The top of the casing 8 is provided with the perforations 10 so that the air passing into the first casing through the passages 4, after passing around the second casing, will enter the same and will pass from the said casing into the pipe 7 and thus enter the engine. Before passing into the pipe 7, however, the air must pass through a wick cylinder 11 which is supported by a cylinder 12 of wire mesh, the wick cylinder being surrounded by a two-part shield 13, the parts of which are held in spaced relation by the rods 14. Two of these rods are extended to pass through the cover 6, where they are provided with the nuts 15, springs 16 being arranged on the extended portions of the rods and tending to hold the shield in its lowest position. By adjusting the nuts 15 on the rods, the shield can be raised or lowered to expose more or less of the wick and thus regulate the amount of wick with which the air will come in contact. The wick and screen have their lower ends submerged in the gasoline or other fuel in the lower part of the casing 8, the entrance of this fuel from the chamber 1' being controlled through a valve 17 which controls the passage 18 between the chamber and casing, the stem 19 of the valve being fastened to a float 20 so that but a certain amount of liquid can enter the casing 8 from the chamber. Thus the air passing through the wick will be impregnated with the gasoline or fuel which saturates the wick.

A deflector cone 21 is suspended from the inner end of the pipe 7 for preventing the air and gasoline vapors from entering directly into the pipe 7. A valve 22 controls the flow of the mixture through the pipe 7 and an upwardly opening valve 23 normally held open by a spring 24, is arranged in the pipe for preventing back-fire from the motor from entering the carburetor. If this back-fire should occur, the valve will be closed and the excess pressure can escape through the openings 25 formed in the pipe 7 above the valve 23 and which are closed by the hinged shutters 26.

From the foregoing, it will be seen that the gasoline entering the chamber 1' will be heated by the hot air passing through the passages in the said chamber, and this

gasoline will pass into the casing 8 until the valve 17 is closed by the float 20. The gasoline in the casing 8 will saturate the wick so that the air passing through the exposed portions of the wick will be impregnated with the gasoline on its way to the cylinders. The vapors from the hot gasoline in the casing 8 will also mix with the air passing in the pipe 7, the cone 21 causing the vapor to mix with the air as it passes into the pipe. By adjusting the shield, through means of the nuts 15, more or less of the wick will be exposed so that the amount of gasoline in the air can be regulated. This device will prevent dust and dirt being drawn into the motor with the air, as the wick acts as a filter or strainer for the air. It also prevents dirt in the gasoline from entering the motor.

The device eliminates the use of needle valves and other complicated adjustments, as the richness of the mixture can be regulated by adjusting the shield on the wick. The valve 17, being always covered with gasoline, will be kept clean so that it will need no attention. By heating the gasoline, it will be made more volatile and the fumes from the hot gasoline can pass directly to the cylinders, thus making easier starting. There is no danger of flooding the

carburetor in starting and the device gives a better and finer vapor than where the air simply passes over the gasoline.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A carburetor for an internal combustion engine comprising inner and outer casings spaced apart, a fuel chamber in the outer casing and in communication with the inner casing, a float controlled valve for controlling such communication, a cylindrical wick in the inner casing and depending into the fuel therein, an outlet pipe extending into the space defined by the wick, means for permitting the suction of the engine to draw heated air through passages formed in the chamber and around the inner casing and into the same and through the wick and an adjustable shield surrounding the wick and having an opening exposing portions of the wick.

In testimony whereof I affix my signature.
RALPH D. PERKINS.