I. D. POWERS & J. W. BURNS.

MEANS FOR SUPPLYING WATER TO FUEL CHARGE OF INTERNAL COMBUSTION MOTORS.

APPLICATION FILED JULY 15, 1914.

1,133,665.

Patented Mar. 30, 1915.

Fig. 1.

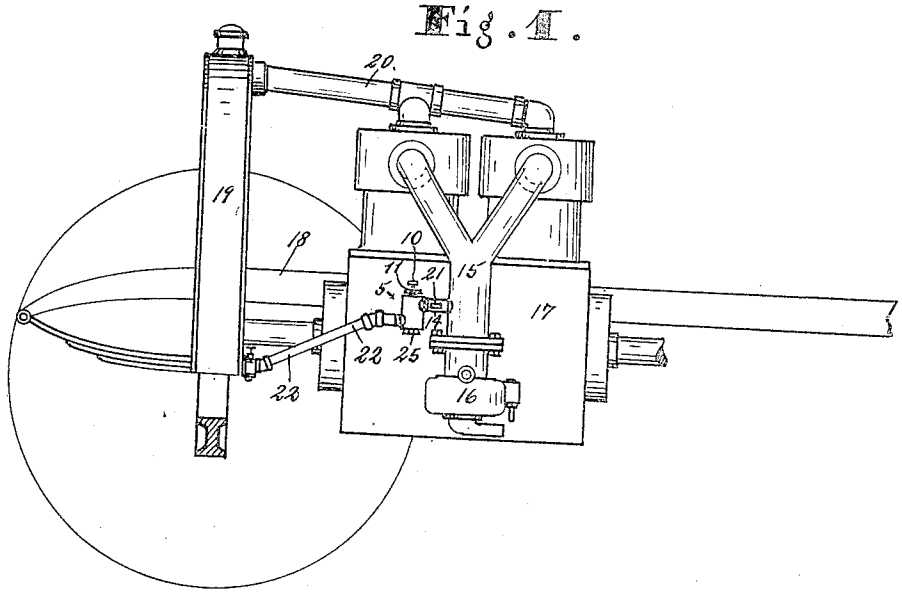


Fig. 2

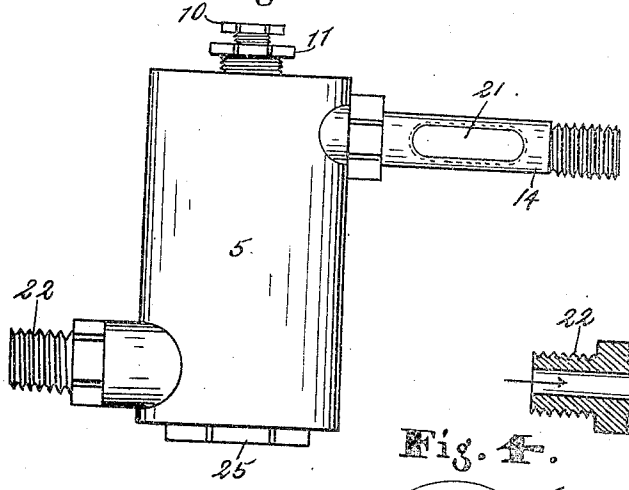


Fig. 3.

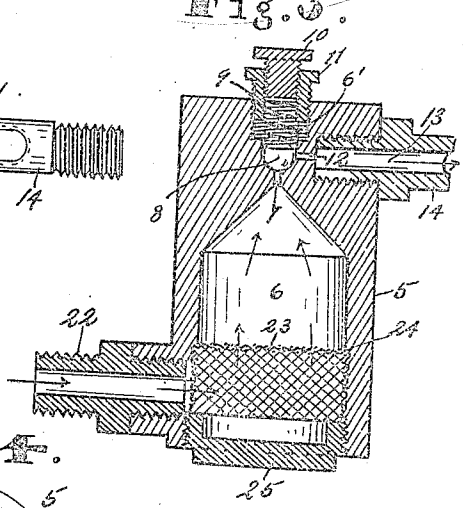
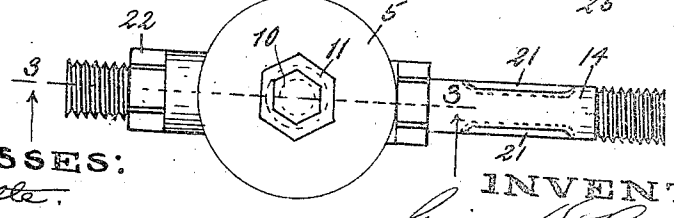


Fig. 4.



WITNESSES:

W. M. Gentle.

Ella Scott.

INVENTORS

Irving D. Powers

By John W. Burns

Alex. H. Liddiard

ATTORNEY.

UNITED STATES PATENT OFFICE.

IRVING D. POWERS AND JOHN W. BURNS, OF LOS ANGELES, CALIFORNIA.

MEANS FOR SUPPLYING WATER TO FUEL CHARGE OF INTERNAL-COMBUSTION MOTORS.

1,133,665. Specification of Letters Patent. Patented Mar. 30, 1915.

Application filed July 15, 1914. Serial No. 851,211.

To all whom it may concern:

Be it known that we, IRVING D. POWERS and JOHN W. BURNS, both citizens of the United States of America, and both residing at Los Angeles, county of Los Angeles, State of California, have invented a certain new and useful Means for Supplying Water to Fuel Charge of Internal-Combustion Motors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for supplying water to fuel charge of internal combustion motors; and it may be said to consist in the provision of the novel and advantageous features and in the novel and improved construction, arrangement, and combination of parts and devices as will be apparent from the description and claim which follow hereinafter.

The main object of the invention is to provide novel and improved means whereby water is supplied to the fuel charge of an internal combustion motor to promote perfect combustion of the fuel, save fuel, reduce heating of the cylinder, and prevent deposits of carbon in the motor.

Further objects of the invention are to provide novel and improved means of the nature specified which may be readily affixed on existing motors, is simple in construction, economical to install, maintain, and use, automatic in operation, and effective in action.

Other objects and the advantages of the invention will be apparent from a careful consideration of the following description of the preferred form of the construction embodying the invention, taken in connection with the accompanying drawings in which

Figure 1 is a broken elevational view showing the invention applied to the motor of an automobile; Fig. 2 is an elevational view of the chamber member and associated parts; Fig. 3 is a sectional view of the same taken on the line 3—3 of Fig. 4; and Fig. 4 is a plan view of the same.

The member 5 is formed to provide a chamber 6 therein from which leads the passageway 7 which is normally covered by the ball valve 8 which latter is arranged in the valve chamber 6′ and pressed by the spring 9. The pressure of the spring 9 may be adjusted by turning the plug 10 which is screwed into the bushing 11 which is suitably affixed on the member 5. A passageway 12 is provided adjacent to the ball valve 8 in the member 5, and is in communication with the valve chamber 6′ and with the opening 13 in the tube 14 which latter has one end thereof screwed on the member 5, and has the other end thereof screwed on the manifold 15 which connects the carbureter 16 to the single or multi cylinder internal combustion motor 17 which latter is mounted on the automobile 18—partly shown—and connected with the radiator 19 by suitable piping 20. The tube 14 may be provided with a glass covered sight opening 21. Suitable piping 22 is connected between the member 5 and the lower part of the radiator 19, whereby the chamber 6 is in communication with the water zone of the radiator. By experiment it has been found that by connecting the piping to the steam or vapor zone of the radiator, much less satisfactory results are obtained. A screen 23 is arranged in the member 5 to strain the water passing into the chamber 6 from the piping 22. The screen 23 is preferably formed to have a portion thereof adapted to contact with the annular shoulder 24 in the chamber 6, and to have a portion thereof in contact with the screw cover 25 which is removably fitted on the member 5 to permit access to the chamber 6 and removal or replacement of the screen 23 when desired.

From the foregoing the mode of operation and the advantages of the invention will be understood by those skilled in the art. When the motor 17 draws a charge of fuel from the carbureter 16 it at the same time causes sufficient vacuum in the valve chamber 6′ to have the valve 8 operate to allow water to pass from the chamber 6 and through the passageways 7 and 12 and thence through the tube 14 to the manifold 15 through which the water passes with the charge of fuel to the motor 17. The water acts to reduce heating of the motor, prevents deposits of carbon in the motor, and promotes perfect combustion of the fuel.

The form of the construction which has been particularly illustrated and described admits of many minor changes and modifications, wherefore the right is reserved to all such changes and modifications as do

not depart from the spirit and scope of the invention which is defined in the appended claim.

We claim:

The combination of an internal combustion motor having a carbureter and a manifold, a radiator, a member formed to provide a chamber, a valve chamber, and a passageway leading from the chamber to the valve chamber, a spring-pressed ball in the valve chamber adapted to cover said passageway, a tube connecting said member with the manifold at a point above the carbureter, said tube being in communication with said valve chamber, piping connected between said member and the water zone of said radiator, a screen arranged in said member to strain water passing into said chamber from the piping, and a screw cover fitted on said member to permit access to said chamber, substantially as described.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses at Los Angeles, county of Los Angeles, State of California, this 9th day of July A. D. 1914.

IRVING D. POWERS.
JOHN W. BURNS.

Witnesses:
A. H. LIDDERS,
ELLA SCOTT.