

L. L. PARRISH.
MANIFOLD HEATER.
APPLICATION FILED DEC. 29, 1919.

1,402,884.

Patented Jan. 10, 1922.

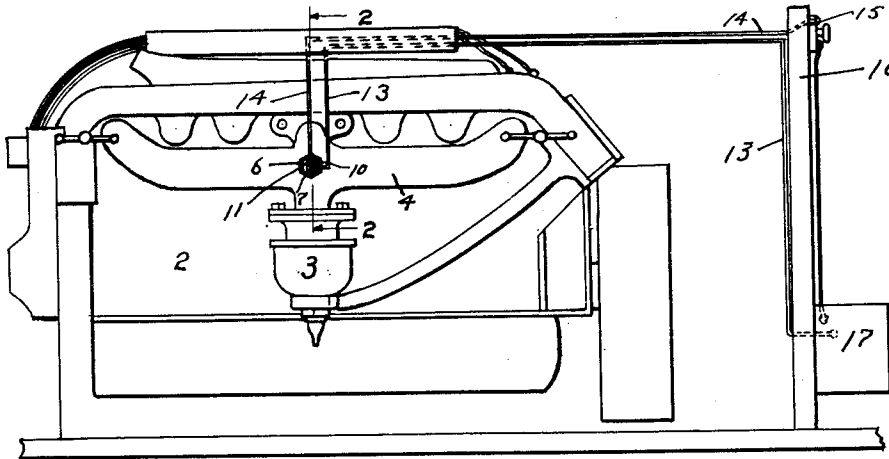


FIG. 1

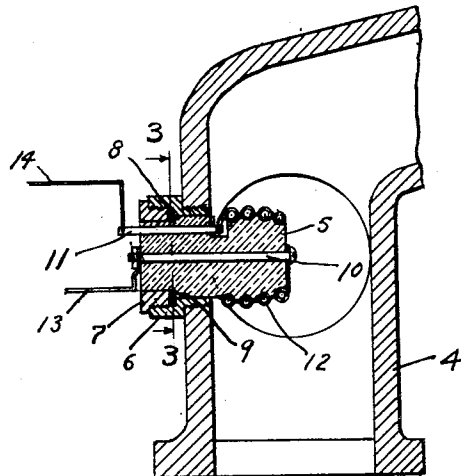


FIG. 2

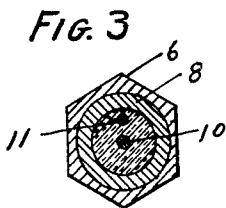


FIG. 3

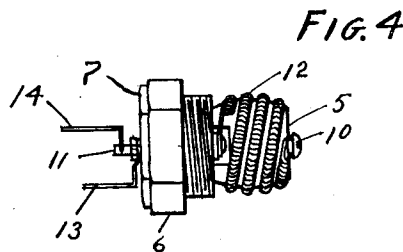


FIG. 4

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MANIFOLD HEATER.

1,402,884.

Specification of Letters Patent.

Patented Jan. 10, 1922.

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To all whom it may concern:

Be it known that I, LOUIS L. PARRISH, a citizen of the United States, resident of Minneapolis, county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Manifold Heaters, of which the following is a specification.

In the operation of an automobile, it frequently happens that the engine, when the car is standing on the street in cold weather, will become so cold that the driver will experience considerable difficulty in starting, and often valuable time is wasted in the effort to start an internal combustion engine when in this condition.

The object of my invention is to provide an attachment for the intake manifold by means of which the gas charge will be instantly heated and each successive charge may be heated, if desired, until the engine has reached its normal running efficiency.

A further object is to provide an attachment for the intake manifold by the use of which a considerable saving in gasolene can be effected and a lower grade of fuel can be used than generally is required in engines of this type.

A further and particular object is to provide an extremely simple device which can be easily applied to the manifold and which will add comparatively little to the cost of the engine equipment.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claim.

In the accompanying drawings forming part of this specification,

Figure 1 is a front view of an engine with my invention applied thereto,

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 detail view of the plug removed from the manifold.

In the drawing, 2 represents an internal combustion engine of any suitable type. 3 is a carburetor and 4 the intake manifold. 5 is a plug of non-conducting material that is mounted in the bushing 6 that is tapped

into the wall of the manifold, the adjustment of the plug in the bushing being accomplished by suitable means, such as an internally threaded nut 7 seated against a gasket 8 which bears on a shoulder 9 of the plug. 10 and 11 represent conductors mounted in the plug 5 and 12 is a resistance coil of any suitable material that is connected at its ends respectively to the pins 10 and 11, forming a conducting medium between them of sufficient resistance to become heated to a red heat when the circuit is closed. The plug 5 and the coil thereon project into the passage through the intake manifold so that the vapor or gas charge rising in the manifold from the carburetor will come in direct contact with the coil and the temperature of the charge will be raised to such an extent that the gas, flowing on to the engine cylinders, will have the desired temperature for ignition necessary to produce the proper degree of efficiency of the engine. This heating of the engine will take place immediately, as soon as the driver begins to start the engine and the result is a saving in gasolene and I have found that a lower grade of fuel may be successfully used where this attachment is inserted into the manifold than generally is possible in internal combustion engines.

The pins 10 and 11 have conductors 13 and 14 leading to a switch 15 that is mounted on the dash 16, the switch being also connected with a battery 17. When the circuit is closed by the movement of the switch, the electric current will flow through the conductors 13 and 14 and the coil 12 between them and will continue to flow until the driver has started the engine and even after the engine has been started, the circuit may remain closed until the engine has reached its normal running capacity. As soon as the switch is operated, the current will be broken and the device will then be inactive until such time as the engine again becomes cold and the driver wishes to raise the temperature of the gas charge before its delivery to the engine cylinders.

I claim as my invention:

The combination, with a gas engine intake manifold, of an insulating member

mounted in the wall thereof and projecting into the gas charge passage through the manifold, conducting pins mounted in said insulating member, a resistance coil wrapped
5 around the end of said insulating member within the manifold and having its ends connected respectively to said conducting pins, and an electric circuit connected with said pins and having means for opening and closing the circuit through said resistance coil. 10

In witness whereof, I have hereunto set my hand this 27th day of December, 1919.

LOUIS L. PARRISH.