

June 24, 1924.

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R. J. DAY

FUEL HEATER FOR GASOLINE ENGINES

Filed April 25, 1923

2 Sheets-Sheet 1

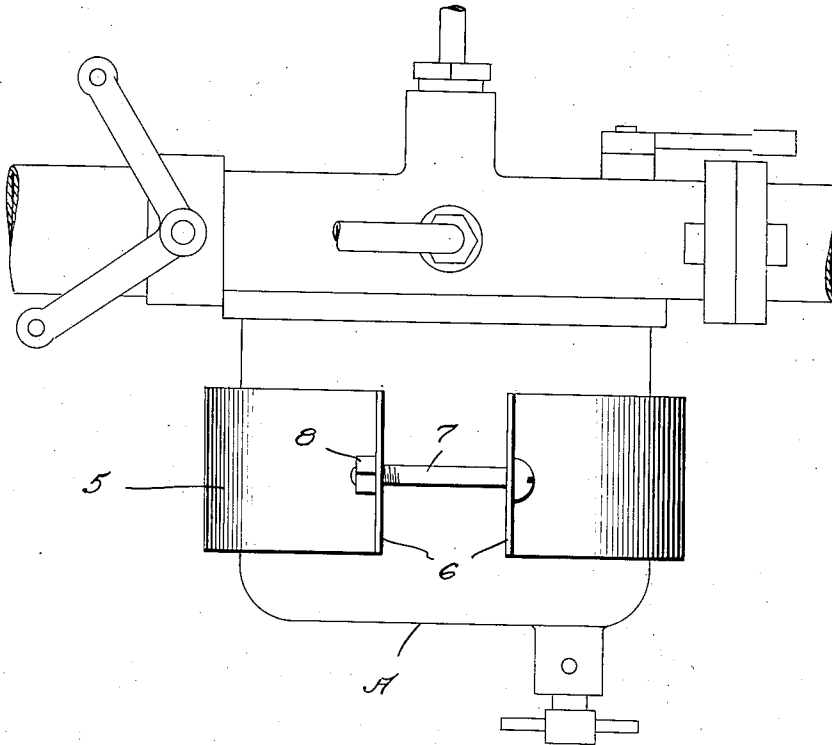


Fig. 1.

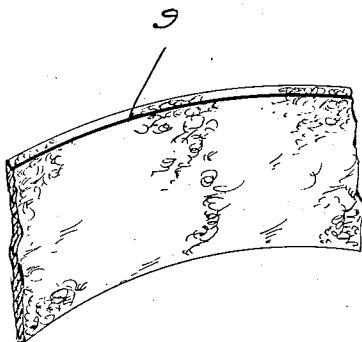


Fig. 5.

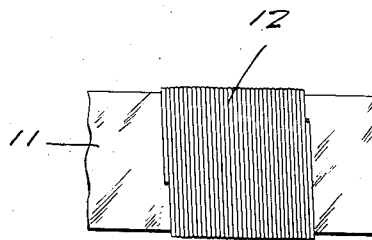


Fig. 4.

Witnesses:

P. M. Hunt.
H. Berman

Inventor

Robt J. Day

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Fig. 2.

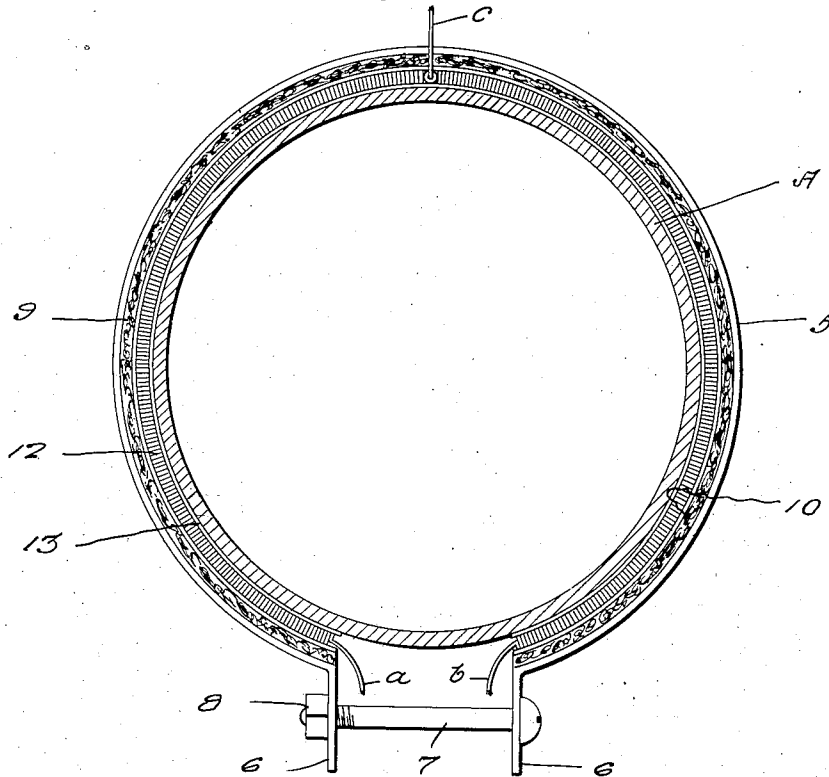
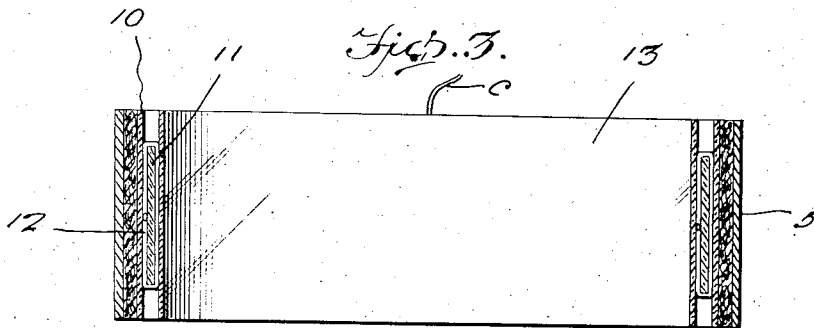


Fig. 3.



Witnesses:

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Patented June 24, 1924.

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UNITED STATES PATENT OFFICE.

ROBERT J. DAY, OF ODON, INDIANA.

FUEL HEATER FOR GASOLINE ENGINES.

Application filed April 25, 1923. Serial No. 634,483.

To all whom it may concern:

Be it known that I, ROBERT J. DAY, a citizen of the United States, residing at Odon, in the county of Daviess and State of Indiana, have invented certain new and useful Improvements in Fuel Heaters for Gasoline Engines, of which the following is a specification.

In carrying out the present invention, it is my purpose to provide a fuel heater for gasoline engines, that is primarily, but not specifically, adapted for application to the engine carburetor for heating the gasoline therein, whereby the same will become thoroughly vaporized before entering the engine cylinders.

A further purpose of the invention is the provision of such a fuel heater, that is comparatively simple of construction, and one that may be expeditiously applied to the engine carburetors, or other suitable points of the gasoline engine, the heater comprising among other elements, an electric coil that may be placed in circuit with either the engine magneto or usual storage battery, whereby when the current is turned on, the gasoline within the carburetor will be thoroughly heated.

A still further purpose of the invention resides in the provision of such a fuel heater that may be manufactured and marketed at relatively small cost, and when once applied is not liable to readily become out of order.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination, and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1—is an elevation of my improved heater applied.

Figure 2—is a cross section through the carburetor bowl shown in Figure 1, disclosing my improved heater in top plan.

Figure 3—is a cross section of the heater.

Figure 4—is a fragmentary elevation of a portion of the electric coil, comprising a part of the present invention, and

Figure 5—is a fragmentary perspective of the asbestos lining between the coil and outer metallic band.

My invention comprises a relatively wide

band 5 of suitable metal having its opposite ends bent forwardly to provide ears 6. These ears 6 are formed with alined openings for receiving a screw threaded and headed cross bolt 7. It is of course to be understood that the band 5 is adapted for encircling the carburetor bowl A and to be secured thereto through the medium of the bolt 7 and nut 8, which engages over the screw threaded end of said bolt after the same has been extended through the openings within the ears 6 of said band 5.

The metallic band 5 is lined interiorly with compressed asbestos or other nonheat conducting material 9, and upon the inner side of this asbestos 9 is a mica strip 10. Within this mica strip 10 is an electric coil, embodying a filler 11, of mica, over which is wrapped uninsulated resistance wire 12. Within this coil comprising said mica filler 11 and resistance wire 12 is a strip of mica, or other suitable material for insulating the resistance wire 12 in the wall of a carburetor bowl A.

If desired, the coil may receive its source of electric supply from the engine magneto, and in this instance, one end of the resistance wire 12 which is designated *a* is electrically connected to a switch that extends to the magneto post, while the other end of the wire *b* is grounded to the machine frame.

If desired, the coil may receive its source of supply from the storage battery of the vehicle, and in this instance, the ends *a* and *b* of the wire 12 is grounded to the vehicle, through the medium of a suitable switch (not shown), while electrically connected to one post of the storage battery is a take off wire *c* in circuit with the resistance wire 12.

In view of the above description, it will at once be apparent that when the heater is applied to the carburetor bowl A, and in open circuit with either the magneto or storage battery, through the medium of suitable switches, the same may be completed completing the circuit to the resistance wire 12, for thereby effectively heating the carburetor bowl, which will in turn heat the fuel therein.

Although I have herein shown and described the preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is:

Means for heating the contents of a carbureter, comprising an electric resistance element substantially circumscribing the body of the carbureter and in close contact therewith, means for conducting an electric current to the said element and connected with the element at a point between the ends thereof, a strip of insulating material disposed around the said resistance element and hav-

ing its ends spaced apart, other electric conductors passing through the space between the ends of the strip and connected with the ends of the resistance element, a band disposed around the said strip of insulating material and having spaced ends provided with outstanding extremities, and a clamping bolt passing through the said extremities, and bridging the space between the extremities.

In testimony whereof I affix my signature.

ROBERT J. DAY.